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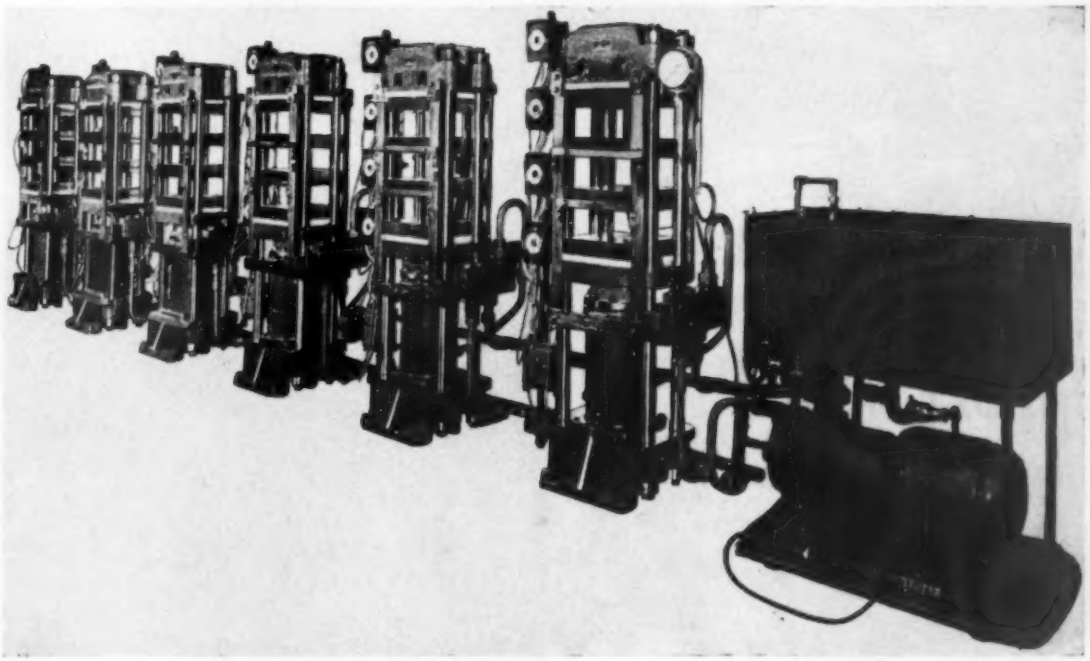

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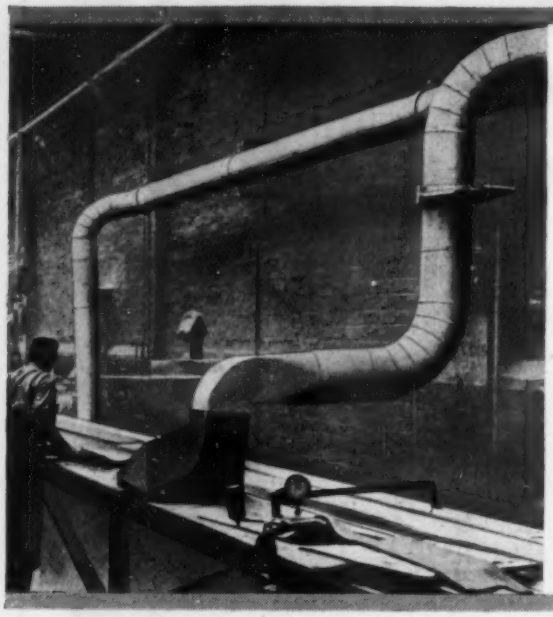

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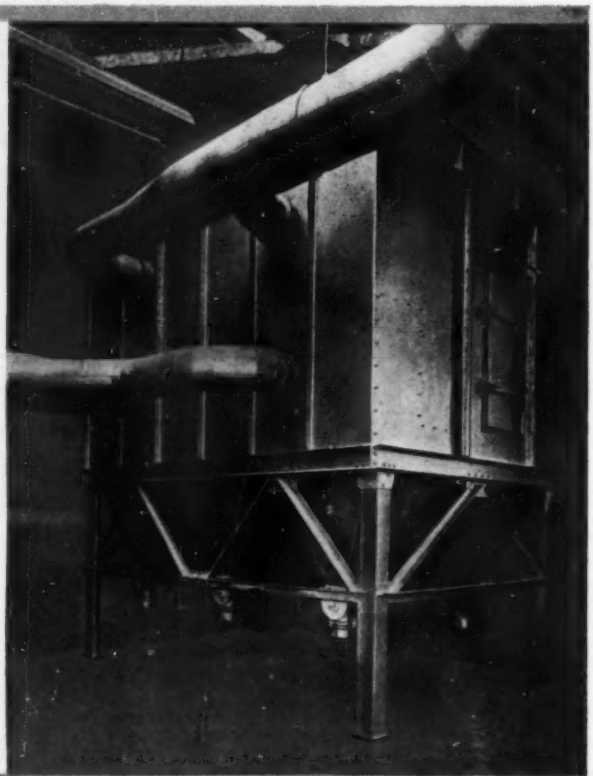

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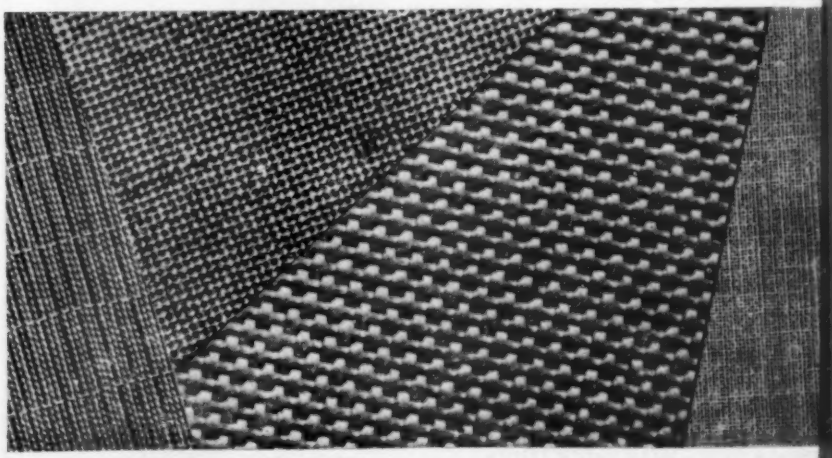

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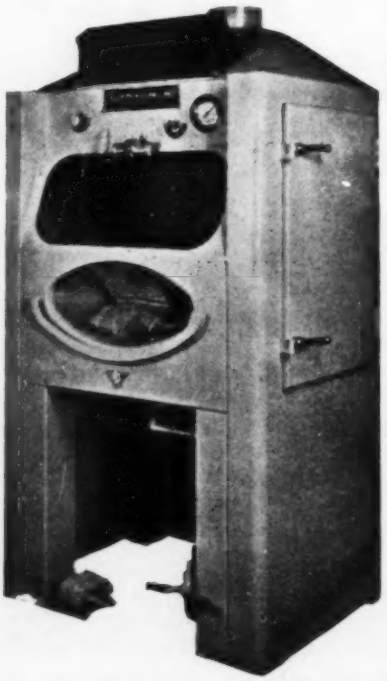

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IN ITS 77th YEAR

September 24 1960

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NOTES of the WEEK

Uneconomic Variety

THE problem of uneconomic variety, whether or not it is recognized as such, is one that at some time or another hangs over almost every manufacturing company. Given that the existence of the problem is realized, something—indeed quite a lot—can be done about it. The technique by which the problem can be resolved—it is, however, a continuing problem and must therefore be continually attacked—has been labelled Variety Reduction. In a booklet under this title,* just published by the British Productivity Council, some remarkable figures are recorded of price reductions and increased efficiency obtained by the application of this method.

Recognition of uneconomic variety depends on adequate records being available. These must cover all the factors governing a company's existing production; the reasons which led up to their present shape; current market needs; and the preparation of proper records of all the knowledge acquired. The BPC booklet notes that, in the examination of an existing product range, the sales of every product in the range should be charted, extending back over some years. Frequently such analyses show that quite a small minority of the lines sold has produced a major part of the total sales income. Instances given include that of one firm which discovered that of the 150 types of telephone switchboard keys listed only 86 had been bought during the past five years. Typical figures indicate that as little as 20% of the product range may be responsible for as much as 80% of total sales income.

Case Histories

THE booklet presents case histories of Variety Reduction as put into practice by 12 manufacturing firms, small and large and each in a different industry. An interesting example is the experience of the Distillers Co. Ltd., Plastics Group. Investigation showed that 7.88% of the many different modifications of resins and moulded materials made accounted for 74% of turnover, while 61.8% accounted for only 9%. During 1953-54 a total of 445 different grades of binder and surface coating resins were listed. Subsequently 210 formulations were deleted. Despite pruning, another survey in 1957 showed that in one group of resins 17 retained of the 200 concerned accounted for two-thirds of the tonnage sold. At the bottom end of the scale, the sales of some 100 formations were less than 5 tons each during the previous six months. In another group, 13 of the 100 resins concerned accounted for four-fifths of the tonnage sold during the six months; 45 sold less than 5 tons each.

Prosperity or Arrowheads

FUTURE plants manufacturing synthetics, perhaps run by thermonuclear power, can be sited free of geographical features, consuming air, ocean or rock as their raw materials. This forecast was one of a number made by 'Professor X.O. Therm' in an amusing, and wise, article published in our contemporary *Australian Plastics and Rubber Journal*. The Professor, described as a philosopher and expert on long-range forecasting, has some delightful things to say and makes some powerful points—not entirely about plastics but well worth quoting. Questioned about the 'Age of Leisure' he states that the 24-hour week is only a few years away. In his opinion, it would be here already but for the heroic efforts to fight it off. He quotes Professor Gabor's remarks that in the USA leisure is held at bay only by four methods of bleeding off surplus wealth: Defence, Aid to East, The Baby Boom and Parkinsonianism. 'Yet the countless billions poured down these drains cannot stem the commodity flood.' Professor X.O. Therm goes on to suggest an altered world for 1975. 'The working week has shrunk and a massive revulsion from passive spectator pleasure has given the average man and woman a second activity consuming more hours than the job. . . . Computers have begun to dismantle Parkinsonian bureaucracy: the town council is mainly electronic.'

One can agree with the learned Professor that the double problem for the rest of this century is how to use goods and time. There can be no doubt that at the moment we misuse both, most notably, of course, in our fearful expenditure in the cause 'Defence'. But to return to the Professor's opinions. He adds that before the end of the century the market consists of 4,000,000,000 people, and everyone has in a myriad complex components several hundred pounds of plastics, rubbers and synthetic fibres. He concludes that we are entering an era of enormous material prosperity based on synthetics—Armageddon excepted; 'otherwise a tiny trade in flint arrowheads.'

*'Variety Reduction,' British Productivity Council, 21 Tothill Street, London, S.W.1. Price 5s.

NEWS *Briefs*

PLASTICS MOVES IN EASTERN EUROPE — MORE MOBIL BENZENE — PROTEST IN CUBA — GOODYEAR INVEST IN ARGENTINA — LATEX PLANT FOR UAR

●**United States** — Price increases, effective on October 1, for all resinox phenol-formaldehyde liquid and solid resins and adhesives ranging from 0.25 to 1.50 cents a lb. have been announced recently by Monsanto Chemical Company's plastics division. The firm said the price increases followed the recent rise in the price of phenol. They also reflected continued increases in the prices of other raw materials as well as transportation and labour costs.

●**Holland** — The Euromatic Company of Weesp, Holland, has received a 500,000-guilder order from the Tractor Engineering Company, of Cairo, for the construction of equipment for a latex factory in the United Arab Republic. Euromatic Company is a subsidiary of Rubatex Co., also of Weesp, which is Holland's leading producer and exporter of latex foam. Rubatex will furnish the required know-how for the Cairo enterprise which is scheduled to start production early in 1961.

●**United States** — Mobil Chemical plans to produce benzene in a multi-million dollar plant to be constructed at Beaumont, Texas. Initially the new facility will yield more than 30m. gallons of benzene annually. Toluene will also be produced.

●**Hungary** — Krebs, the French concern, is to supply machinery for a plant in Berente which will feed a PVC plant there. The latter is to be fitted out by the West German concern of Friedrich Uhte at a cost of $2m. Economic plans in Hungary indicate that plastics production will be trebled in the next five years. The raw material basis of the industry will be petroleum and natural gas.

●**Poland** — Four new plants came into operation at the Oswiecim Chemical works recently. These included a polystyrene plant with British equipment, annual capacity 4,000 tons, a butanol and octanol plant with French equipment, annual capacity 7,500 tons, and a synthetic alcohol plant, with Russian equipment, capacity 30m. litres a year.

●**United States** — The United States Rubber Co. has announced that its Naugatuck Chemical Division will construct a $2m. pilot plant in Baton Rouge, Louisiana, for trial production of a new class of synthetic rubbers called stereo regulars. Multi-ton batches of the new rubbers will be produced in the new unit for further evaluation in tyres and other basic rubber products. The new plant, it is said, will be the forerunner of large-scale production and widespread consumer use for this new class of materials.

●**Cuba** — Three American-owned rubber factories taken over by the Cuban Government on September 1 have filed protest suits with the Supreme Court and with the Labour Ministry, it is reported from Havana.

●**United States** — A second reduction in the prices of nylon tubular bars has been announced by the Polymer Corporation of Reading, Pennsylvania. In February, price cuts of up to 50% were made on some sizes with the introduction of Polymer's new MC nylon formulation. The latest price reductions are up to 30% on additional sizes. The new prices make the cost of nylon competitive in this field with that of continuous cast bronze tubular sections.

'Hold it a minute dammit— Hold it!'—503

●**Israel** — The Government has approved a loan of I£725,000 to the projected $5m. polythene plant in Haifa, which will be the first in Israel. The I£1m. formaldehyde plant in Athlit near Haifa is nearing completion and is expected to start production within three months. The plant is expected to save the country some $250,000 a year now spent on the import of about 2,000 tons of the material.

●**Argentina** — Goodyear Tire and Rubber plans to proceed with a 2.8m. dollar expansion of its subsidiary at Buenos Aires, Argentina. The company said it will invest one million dollars of its own money and 1.8m. dollars would come from a loan already approved by the Export-Import Bank. The subsidiary, Neumaticos Goodyear Sociedad Anonima, has operated in Argentina since 1930 and has been enlarged several times. It produces tyres, tubes, industrial products and shoe products.

●**West Germany** — Continental Gummi-Werke AG — West Germany's largest tyre producers — have recently taken up the manufacture of aircraft tyres again, the company has announced. Types made range from those for sports and trainer planes to passenger plane tyres with a load capacity of 17,000kg. (37,400lb.).

●**Japan** — Shinetsu Chemical Industry Co. and Mitsui Bussan have signed a contract with Portuguese interests for the joint establishment in Portugal of a factory producing synthetic resins, chiefly polyvinyl chloride.

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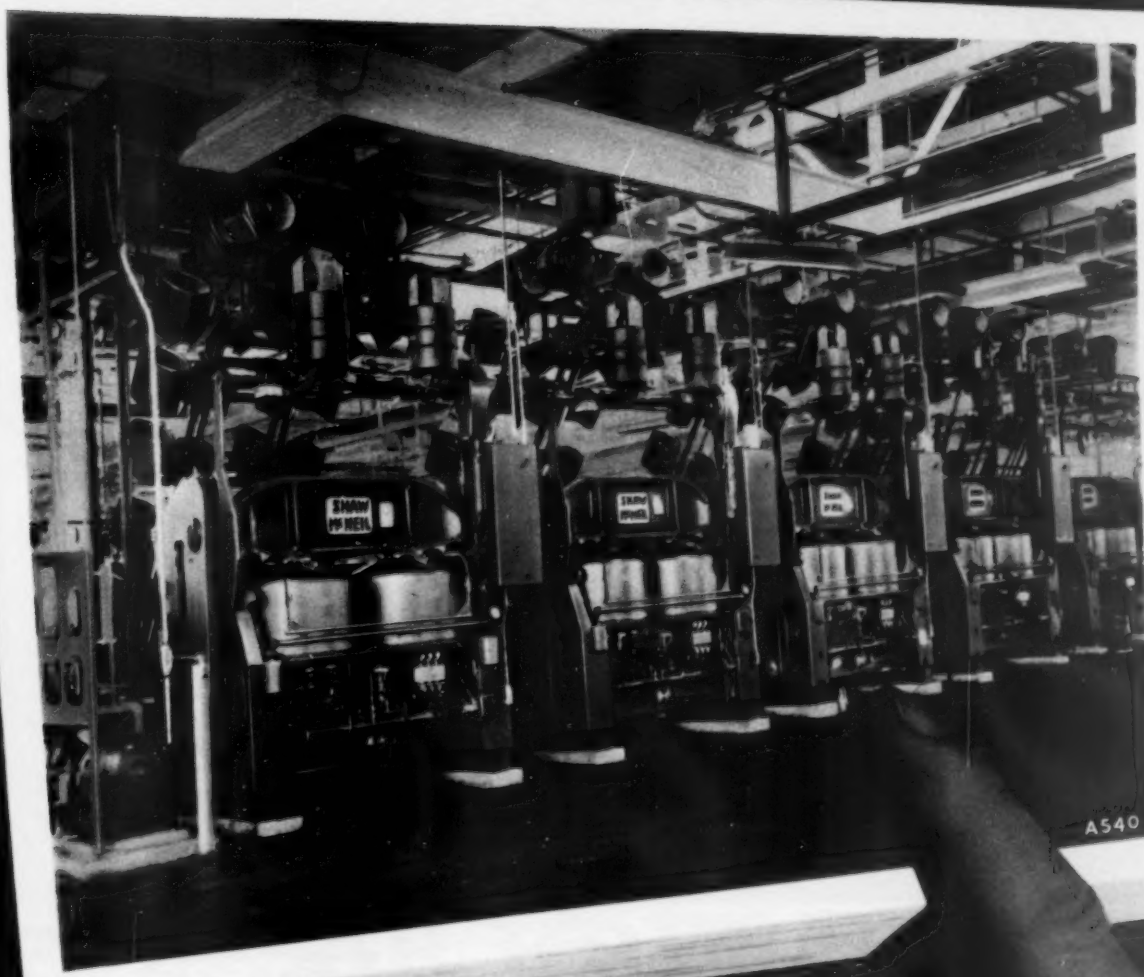

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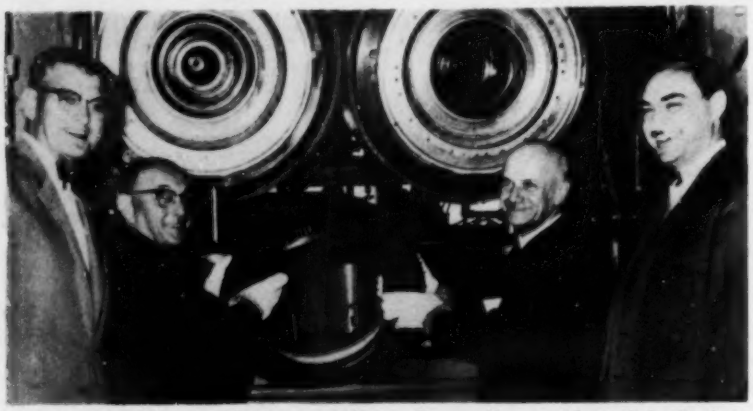
First Tyre at Amiens

GOODYEAR'S $7m. PLANT STARTS PRODUCTION

THE first tyre manufactured at Goodyear's new plant at Amiens, rolled off the production line less than a year after the construction of the $7m. factory began.



Maurice Vast, Mayor of Amiens, and Roger Dumoulin, president of the Amiens Chamber of Commerce, take the first tyre from its curing mould at the new plant. With them is W. T. Clayton (*left*), plant manager, and J. A. Goodson, general manager

F. T. Magennis, president of Goodyear International Corporation, said the first unit was a 135 x 380mm. passenger tyre, the most popular size in France. It is the equivalent of a 5.00-15in. size tyre.

The plant, fifteenth to be built by Goodyear overseas, is located on a 75-acre site 80 miles north of Paris along the Somme river.

Complete Lines

The installation is said to contain the most modern manufacturing equipment, and production will include complete lines of passenger, truck and farm tyres and tubes for replacement and original equipment. Most of the tyres will be marketed in France and a quantity will be exported to common market countries.

The entire plant was designed in France and all equipment — with the exception of some specialized machinery — was purchased in that country.

Goodyear comments that the opening of the new plant marks 'another significant milestone in Goodyear's worldwide expansion.' It was just 50 years ago that the firm established its first plant outside the USA in Bowmanville, Canada. Today the company has 59 domestic and foreign manufacturing locations.

German Plastics Production

APPROACHING MILLION TON MARK

WEST German production of plastics during the first six months of this year amounted to 482,000 tons — an increase of 33% compared with the corresponding period of 1959, the West German Chemical Industry Association has announced.

It was expected that the million ton mark would be passed this year, the association said.

Production of polymerization plastics totalled 237,000 tons, an increase of nearly 44% over the same period last year. Condensation products, which totalled 192,000 tons increased by 28% and cellulose derivatives totalled 53,000 and increased by 13%.

Exports of plastics in the first half year increased by 24%, and were valued at about DM400m. Imports increased by 29%, and valued at DM131.5m.

Investments in the plastics producing industry, which totalled DM270m. last year, are likely to be higher still, the association stated, and will be mainly in the factor of polymerization production and in the petrochemical field.

TEN NEW RUBBER GRADES

THE International Rubber Quality and Packing Conference held in Singapore last week decided to eliminate the twelve overlapping RMA and Singapore grades and to substitute ten new international grades universally acceptable in world markets.

Other points agreed on included official listing of types of rubber available in lower qualities than grades already accepted, and the setting up of an international sample committee.

Two previous conferences had agreed on the adoption of 24 internationally-accepted grades out of a total of 36 traded in volume throughout the world. The twelve now eliminated were six to the specifications of the Rubber Manufacturers' Association in the United States and six as accepted by the Singapore Chamber of Commerce Rubber Association.

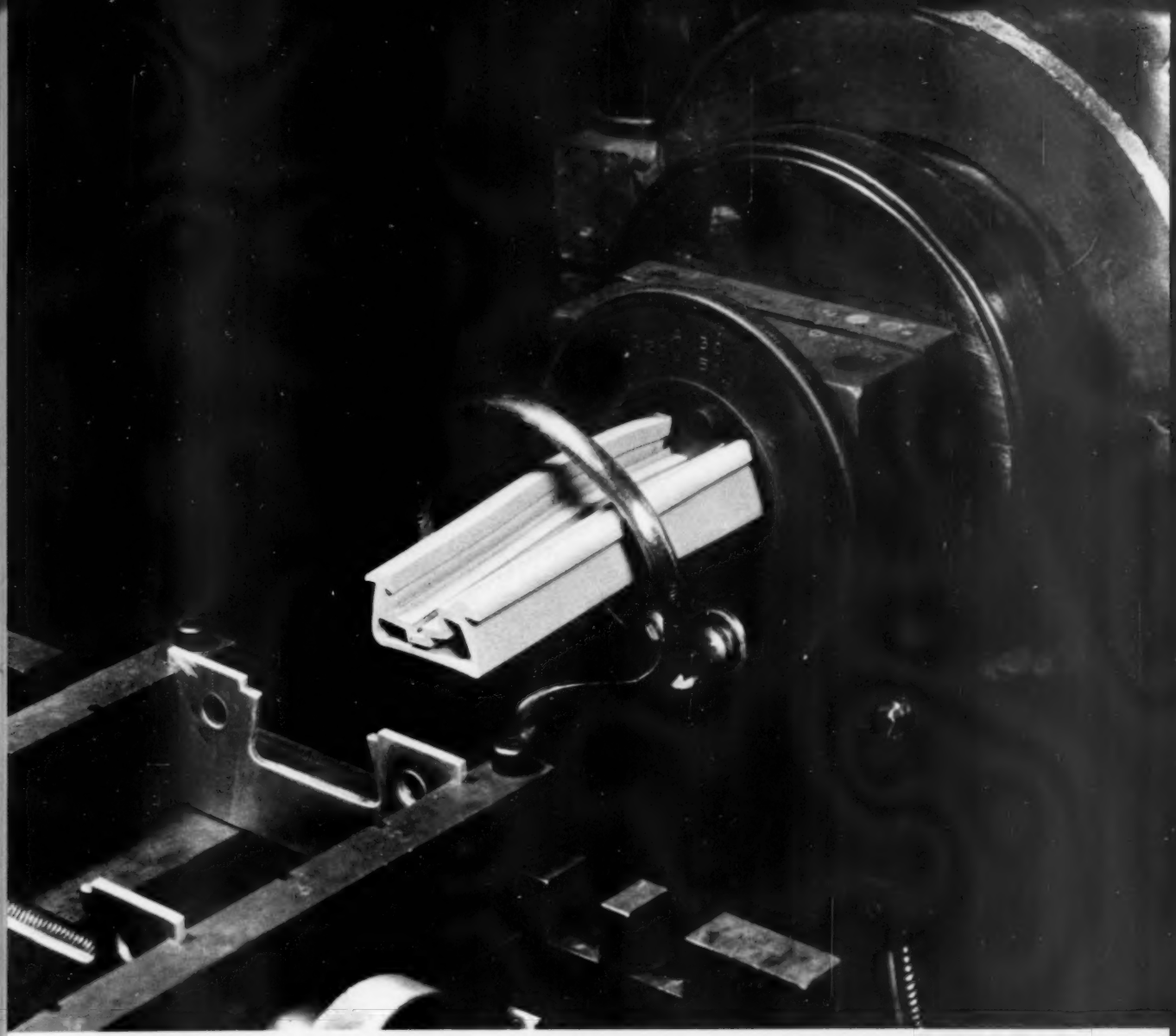
RSS Relations

Explaining the overlapping of these grades, the statement said RMA four and five ribbed smoked sheets were related to Singapore four and five ribbed smoked sheet; RMA clean thick blanket crepe was related to Singapore (CCC) thick remilled blanket crepe and RMA two, three and four clean thin brown crepe were related to Singapore two, three and four thin brown remilled crepe.

The ten new international grades agreed on as substitutes are: International four, five and six Ribbed Smoked Sheet; International two, three and four clean thick blanket crepe; International one, two, three and four clean thin brown crepe. The new grades, the statement says, are acceptable to consuming manufacturers as being suitable for their various compounding and manufacturing processes, and also to the producing countries as being representative of the material available.

The official listing of types available in smaller quantities than the internationally accepted grades, the statement says, will cover air-dried sheet, including sheet prepared with proprietary additives, skim rubber, technically classified rubber, superior processing rubber and certain other material.

It was not immediately clear when the eliminated grades will cease to be recognised, but trade sources pointed out that contracts already concluded for months ahead in the eliminated types will still have to be fulfilled.



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For details of POLYSAR KRYNAC 804 write to: Marketing Division, Polymer Corporation Limited, Sarnia, or Polymer's distributor in this area.

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COMPOUND	A	B	C	D	E
Polysar Krynac 800	100.0	75.0	50.0	25.0	—
Polysar Krynac 804	—	25.0	50.0	75.0	100.0
MILL SHRINKAGE					
Linear shrinkage (with grain) %	45	40	20	10	5
EXTRUSION PROPERTIES					
(A) Garvey Die					
Rate (in./min.)	28	37	50	66	70
Ratio (gm./in.)	4.2	3.3	2.3	1.8	1.7
(B) 1/8" Die					
Rate (in./min.)	150	205	290	365	390
Die swell (%)	120	80	30	5	2

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Monsanto in Spain

NEW PLASTICS COMPANY FORMED

MONSANTO Overseas SA — a wholly owned subsidiary of Monsanto Chemical Co. of St. Louis, USA, has formed a new Spanish company jointly with Aiscondel SA of Barcelona, which is already producing plasticizers and other plastics raw materials. The new company is called Monsanto Iberica SA.

The new jointly-owned Spanish firm is one of the first companies to be created under a recently enacted Spanish law which governs foreign investments and permits equity of up to 50% by foreign companies. Previously, foreign equities were generally limited to a maximum of 25%.

This new venture is in production having acquired an Aiscondel subsidiary plant near Barcelona which produces plasticizers, stabilizers and lauroyl peroxide for the plastics processing industry.

Monzon Plant

The new company also will begin construction immediately of a plant at Monzon, Spain, to manufacture calcium carbide, acetylene and acetylene derivatives. The plant is expected to commence initial operation the second half of 1961.

This is the third joint overseas venture involving Monsanto to be announced in recent months. In late May, Monsanto Chemicals (Australia) Ltd. joined with another Australian firm to form Australian Fluorine Chemicals Pty. Ltd. The establishment of Monsanto Belgium SA by the parent company and a European partner, also was announced at that time.

Monsanto Overseas holds a minority interest in another Spanish firm, Etino-Quimica SA, whose products include polystyrene and vinyl chloride monomer and polymer.

Buist Gets Refrigeration Medal

The Institute of Refrigeration has awarded its Lightfoot Medal for the best paper presented during the 1959-60 session to J. M. Buist and R. Hurd for their paper 'Polyurethane Foams: Their Contribution to Heat Insulation.'

J. M. Buist, chairman of the Manchester section of the Institution of the Rubber Industry, is assistant manager of I.C.I.'s polymer and chemicals service department.

Synthetic Producers Form Institute

FOURTEEN synthetic rubber companies in USA, Canada, Britain, and West Germany have completed the organization of the International Institute of Synthetic Rubber Producers. Representatives of two companies from Italy and Japan also participated in the establishment of the Institute, but have not yet formally joined it.

At a meeting in New York last week, the following officers were elected: President, Thomas C. Cubbage, Phillips Chemical Co., USA; vice-president, Judson T. Black, Polymer Corp. Ltd., Canada; secretary, George Hackim, General Tire and Rubber Co., USA; treasurer, James C. Roberts, Firestone Synthetic Rubber and Latex Co., USA. Bancroft Henderson, former president of the American Synthetic Rubber Corp., is serving as managing director.

Manufacturers in USA who are members include Firestone, Goodyear, US Rubber, Goodrich-Gulf Chemicals Inc., American Synthetic Rubber Corp., Copolymer Rubber and Chemical Corp., General Tire and Rubber Co., Philips Chemical Co., United Carbon Co., and Shell Chemical Co.

Members outside the United States are the Polymer Corp., Canada; International Synthetic Rubber Co. and Shell International Chemical Co. Ltd., UK; and Chemische Werks Hüls AG, Germany.

Activities will be carried on through technical, traffic, packaging and statistical committees for the purpose of providing a forum in which manufacturers may develop and exchange information to encourage scientific advances within the industry and promote international trade in synthetic rubber.

Richard Baker and Co. Ltd. have moved to 12 Broadway, London, S.W.1 (Abbey 3221/2).

New Vinatex Factory Completed

FULL PRODUCTION BY NOVEMBER

VINATEX Ltd.'s new factory at New Lane, Havant, Hants., has now been completed. It will manufacture Vinatex vinyl compounds, polyvinylchloride pastes, and the recently introduced Vinacoat PVC sintering powders.

The expansion has taken place because, the company says, for some time past it has been increasingly difficult to satisfy the ever-increasing demand (both at home and overseas) from the firm's Charshalton factory.

Laboratories

The new factory is expected to be in full production early in November. Capacity was not revealed.

Extensive control and technical service laboratories have been set up in conjunction with the factory.

Plant was installed by Barfoot and Webb. This firm, who also acted in an advisory capacity, recently themselves installed a new roll grinding mill at their Seaford plant (12ft. x 28in. capacity) which they claim to be the largest in Southern England.

Vinatex is a member of the Reichhold Chemicals group.

General view of the new factory

Foaming Capacity of Rubber Latex

(Concluded from September 17 issue, page 416)

By D. M. SANDOMIRSKII AND A. A. KOROTKOVA*

IN Fig. 2 we show the dependence of the surface tension, viscosity and foam-forming capacity upon the concentration of the latex. The original latex was diluted with distilled water. The surface tension alters insignificantly with the dilution of the latex, the viscosity and foam-forming capacity depend very markedly, and approximately to an equal degree, upon the concentration.

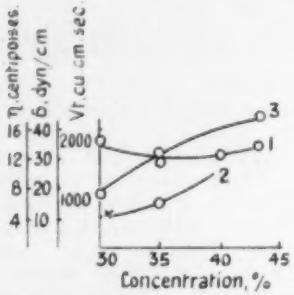

Fig. 2. Dependence of properties of SKS-50N latex upon concentration. 1. Surface tension. 2. Viscosity. 3. Foam-forming capacity

For a more detailed study of the influence of surface tension upon the foam-forming capacity SKS-50N butadiene-styrene latex was subjected to dialysis. The surface tension here was increased by 10 to 12 units. To the dialysed latex there were added 1.2 and 3% (reckoned on dry substance) of Nekal and potassium oleate. The concentration of latex here remained constant (34%). In parallel we investigated solutions of these substances of the same concentration as holds good in the latex serum. The results are given in Table 2.

From the data in Table 2 it may be seen that the introduction of surface-active substances has in practice no influence upon the viscosity of the latex and, consequently the alteration in the foam-forming capacity is governed by the alteration in the surface tension. The surface tension in latex always has a somewhat higher value than in a solution of surface-active substance of corresponding concentration. This may be explained by the fact that a portion of the surface-active substance, added to the dialysed latex, is adsorbed by the globules, which leads to a reduction of the concentration in the serum. It is possible, however, to assume that there is also a direct influence of the globules upon the surface tension of the latex. To test this supposition SKS-50N latex was diluted not with distilled water, but with a solution of emulsifier of the same concentration as in the latex serum. From Fig. 3 it may be seen that in this case the surface tension increases with the increase in the concentration in the latex, although the concentration of the surface-active substance remains constant. The presence of globules causes an increase in the surface tension of the latex in comparison with the solution of the surface-active substance of the same concentration.

From Table 2 it is seen that on lowering the surface tension with the addition of Nekal and potassium oleate the foam-forming capacity of the latex increases, nevertheless the character of this increase depends upon the nature of the surface-active substance which has been added. Thus on the addition of potassium oleate the foam forming capacity of latex increases very little, but the addition of Nekal leads to a considerable increase. This probably is explained by the fact that on addition of the soap there are formed on the liquid-air boundary surface mixed adsorption layers having lower strength.

TABLE 2
INFLUENCE OF SURFACE-ACTIVE SUBSTANCES UPON THE FOAM-FORMING CAPACITY OF DIALYSED LATEX

	SKS-50N				Solution of surface-active substances		
Added substance	Added amount, %	σ, dyn./cm.	η	Vt, cu. cm. sec.	Concentration, %	σ, dyn./cm.	Vt, cu. cm. sec.
— ..	—	45.4	4.7	83	—	—	—
Nekal ..	1	40.4	4.4	282	0.5	33.8	396
,, ..	2	37.6	4.3	360	1.0	32.9	380
,, ..	3	33.7	4.4	680	1.5	32.9	414
Potassium oleate ..	1	39.0	4.2	53	0.5	35.0	372
,, ..	2	36.0	4.2	85	1.0	27.2	705
,, ..	3	34.2	4.2	140	1.5	29.0	520

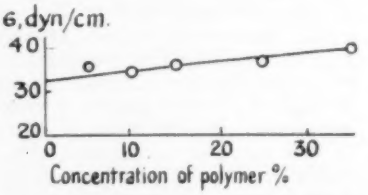

Fig. 3. Dependence of surface tension of 4.3% solution of Nekal upon the content of polymer in it

To investigate the influence of the viscosity we carried out foaming of latex, the viscosity of which was varied by addition of glycerin to it. The surface tension here did not alter.

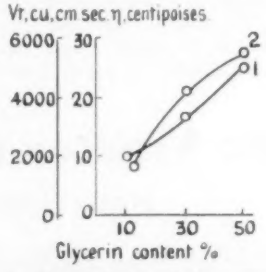

Fig. 4. Dependence of the properties of SKS-30 latex upon the glycerin content. 1. Viscosity. 2. Foam-forming capacity

The results obtained, given in Fig. 4, show that on increasing the viscosity there is a noticeable increase also in the foam-forming capacity. The symbatic character of the alteration of the foam-forming capacity and the viscosity is clearly evident. The same character of dependence was observed also on comparison of viscosity, surface tension and foam-forming capacity of latex (not subjected to dialysis), to which there were added different amounts of Nekal, and of solutions of Nekal of the same concentration. The results are presented in

*D. M. Sandomirskii and A. A. Korotkova, N.I. Inst. Rezin i Lateks, Moscow (Koll. Zh., 1959, 21, No. 6,679 - 85); Research Association of British Rubber Manufacturers' Translation No. 832 by R. J. Moseley.

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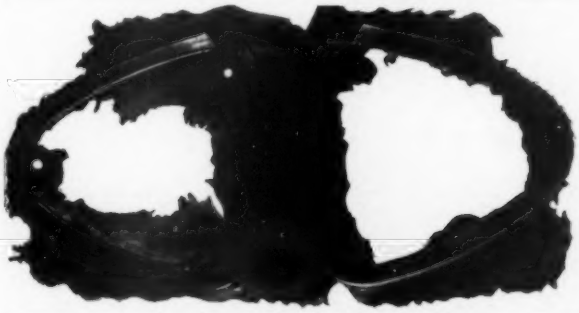
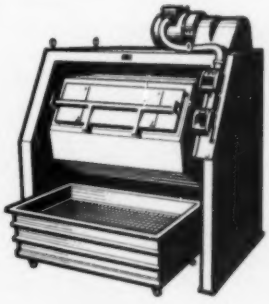




Sub-zero tumblers are available from Columbian International (Great Britain) Ltd., 116 Cannon Street, London E.C.4.

DK.333

Imperial Chemical Industries Ltd., London, S.W.1

Fig. 5. (The data on viscosity of Nekal solutions are not given in Fig. 5, their value depends little upon the concentration and amounts to ~ 1 centipoises.)

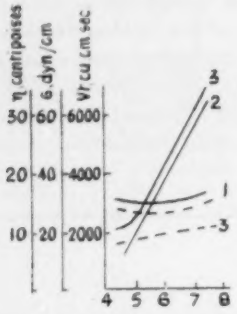


Fig. 5. Comparison of properties of SKS-50N latex (continuous line) and solutions (broken line). 1. Surface tension. 2. Viscosity. 3. Foam-forming capacity

Increasing the concentration of Nekal brings about only a small change in the surface tension whether of the original non-dialysed latex or of the solution, but leads to a considerable increase in the structural viscosity of latex. At the same time there is also a sharp increase in the foam-forming capacity of the latex. The foam-forming capacity of the solutions of Nekal alters only little, corresponding to an insignificant alteration in their surface tension and viscosity.

Thus the results show that in contrast with solutions of surface-active substances the foam-forming capacity of latex depends not only on the surface tension but also on the viscosity, particularly when the latter takes on the character of structural viscosity, as for instance in the case of concentrated latex or the addition of thickening agents, if in this case there is no stabilization of the latex.

For latices of comparatively low concentration (25 to 30%) with low viscosity foam-forming capacity is determined by their surface tension, increasing with reduction in this surface tension. In equation 8 (*RJIP* Sept. 17, 416) the foam forming capacity Vt increases in the first place on account of the value t, indicating the stability of the bubble of foam, which increases with the reduction in the surface tension σ.

At a certain, quite low, surface tension, which is characteristic for industrial butadiene-styrene latex, the foam-forming capacity increases sharply on increasing the viscosity. In this case in equation 8 the value Vt increases both on account of the value of the viscosity of the system η, and on account of the value t, which increases with raising the viscosity.

Experience shows that on increasing the viscosity there is lowering of the rate of flowing of the liquid from the films of foam, which retards their thickening and, consequently, raises the stability of the foam. In addition with the thickening of the films of foam their strength must increase, which also leads to an increase in stability of the foam and in the foam-forming capacity of the system.

Conclusions

1. The authors investigated the foaming of rubber latex at different rates of passage of air through it. It is shown that the product of the volume of foam V and the time of foam formation before the beginning of destruction t does not depend upon the velocity of the air and characterizes the foam-forming capacity of the latex.

2. The authors investigated the dependence of the foam-forming capacity of the latex upon its concentration, surface tension and viscosity.

3. It is shown that in a sufficiently concentrated latex the main factor determining the stability of the foam is its viscosity.

New Zealand Plastics Survey

US MANUFACTURERS MORE PUSHING THAN UK FIRMS

IMPORTS of plastics raw materials into New Zealand in 1959 were worth £3.2m. The UK is by far the most important supplier, accounting for 60% of thermosetting resins imported and nearly 50% of thermoplastics. This position is shown in a detailed survey on the market for plastics raw materials in New Zealand published in the September 12 issue of the Board of Trade's Export Service Bulletin.

About 40 firms who concentrate entirely on making plastics articles use well over £1m. of raw materials in producing a full range of articles from refrigerator components to piping and tableware. Six firms producing wire, cable and electrical equipment use over £1½m. of raw material.

Most overseas manufacturers are represented by agents who act as importers and stockholders, the report explains. The commission for an agent importer averages about 5% although it is affected by the speed of turnover. Credit of 90 days after landing is usually allowed by the manufacturer to the importer. In effect this means 60 days from the date of the bill of lading plus 90 days.

Payment by the user/manufacturer to the wholesaler/importer is made by the 20th of the month following the sale. Quotations of price are usually expected to include exchange and are therefore expressed cife to the local customer plus landing and storage charges, but importers often buy PVC fob if they are not acting purely as indenters or agents, and polythene cif. Importers can now import against both their own and their manufacturing customers' licences.

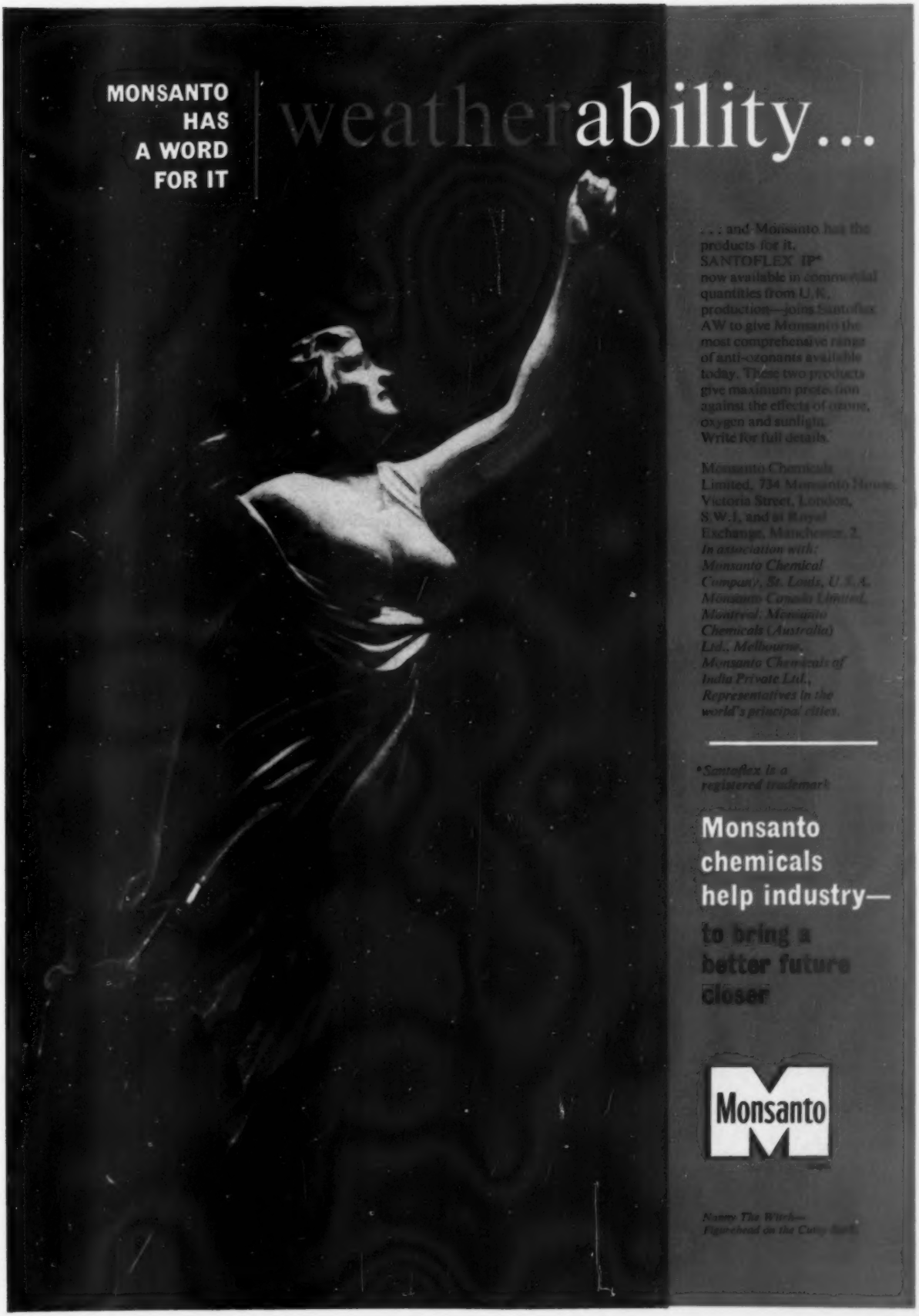
The New Zealand Institute of Plastics which was formed after the war is the trade association concerned with most aspects of production of plastics articles and of supply of raw materials for the industry. The Institute is affiliated to the New Zealand Manufacturers' Federation. The Institute is interested in receiving technical information from overseas — provided it is clearly written and well presented.

The report comments that US manufacturers of plastics raw materials provide their agents in New Zealand with an 'admirable supply' of technical information and they appear to send representatives to New Zealand more frequently than some UK firms. All advertising and approaches to the market are done through agents, but it is said that the Americans push their agents harder than UK manufacturers, give more help and 'buy' their way into the market by supplying as much as a ton of free samples to potential users.

Apart from the USA and Germany, Australia is making efforts to gain an increasing share of the New Zealand market. Japanese competition has not, however, had much effect. Current enquiries indicate that prices are now stable and that any improvement in sales of American plastics raw materials is due to the greater service provided rather than to any price advantage.

One of the report's main conclusions is that UK manufacturers should make a special effort to provide their agents with the technical service and advertising help in order to meet American competition which is likely to follow the liberalization of dollar imports.

Enquiries about this report should be made to the Export Services Branch, Board of Trade, Theobalds Rd., W.C.1, quoting ESB/16151/60.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VIEWS and REVIEWS

IN development, there is more than technology concerned. How should a new product be conceived, born, nourished? What is the best course for product development?

H. E. Pebly, Jun., writes a well-expressed and thought-provoking 'guest editorial' in the July 1960 issue of *Plastics Technology*. 'The pace of discovery and the pace of application,' he says, 'have been stepped up. If we wait for the process of information flow to proceed unguided, we will be swamped with unused data. . . . There needs to be a balance among the various levels of research and engineering effort. To maintain this balance we must bridge the gap between them by improving communications . . . to conserve the precious time of the scientists . . . to quicken the pace with which new creative ideas pass from the point of origin to development, test, and application.'

Mr Pebly here puts his finger on an increasingly sore spot in our modern, scientific civilization — the growing inability to make use of scientific discovery because of the sheer pace at which knowledge is increasing. But before considering his remedy, shall we look first at some orthodox methods which are to hand in the always-lively, always-well-produced *Du Pont Magazine*? There are several apposite articles in the July/August 1960 issue.

One is called 'Seven New Babies for Number 7,' a silly title heading an interesting, informative, strip-photograph account of the planned course of turning laboratory ideas and knowledge into practical applications. Although Du Pont is largely a supplier of raw materials which its customers transform into consumer articles, it does also make a number of ultimate products itself, especially through one of its sections here called 'Number 7.' A series of thirteen photographs with short descriptive texts outline the whole development process from the original idea to the customer's purchase.

Technical Development

First a Du Pont committee meets each week at Wilmington to 'screen' ideas. This committee appears to consist of four people who, last year, considered 700 ideas, an average of 14 per meeting in quite a restricted field, quite a lot, you may think. It accepted 51 of these ideas for further, practical study; average one per week, again a large number. All these were concerned with speciality products for domestic use, in the home or on the car, and the general type of article can be judged from the fact that the chemists in the laboratory at Philadelphia came up with 45 formulas for them. That, then, was stage 2: laboratory formulation development. Then came technical evaluation, apparently of two kinds, in the laboratory and in the field by technologists and their families.

The strip-story says that, last year, 32 products passed this stage and were then sent out for Dealer Evaluation by a special panel of dealers engaged in the business, generally, one understands, local garages. Last year the dealers were kinder than I would have prophesized for they passed 17 of the products to go on to the next stage: selected trial markets.

A Trap in Selling

But success in the market itself depends nowadays on other things than having a good article to sell. No longer when you have made a good mousetrap for sale do the customers beat a path to your door. Indeed you must lay a highway for them to your factory, a highway whose foundation is publicity. And the most important operation in the whole publicity process is deciding on a name for your new gadget.

My own experience and observation of new-product-name-choosing is that it is an amusing game whose practitioners need no expertise, authority, or elegance, though there is sometimes a pretence at a basis of so-called 'consumer psychology.' Perhaps I shall raise the least dissent if I say that it is a field ripe for scientific study. At Du Pont, they proceed as well as anywhere, no doubt, and better than most by having a New Name Board to which a designated member of the Advertising Department submits a list of possible names. Guess how many? Several hundred.

Wrapping It Up

Scarcely less in importance is the packaging. For the Du Pont speciality under discussion here — this time a cleaner for white sidewalls of tyres — photograph number 7 shows that planning packaging is a joint effort by five men in four departments.

Then there is the question of what to put on the package besides the name. Production men and development technologists should note that 'labelling the product can make or break it.' At this point a new figure enters — the Legal Department — which must check the statements made on the label and also investigate the company's title to any trade mark or trade name. In common with the general trend (and perhaps leading it) Du Pont insist on an informative label carrying clear instructions.

Only now has the stage of direct publicity been reached when photographs and 'copy' are married into press releases, and potential purchasers are told about the new product, in magazines, newspapers, and television advertisements. Then, at Du Pont, follows a period of Trial Markets, selling in selected areas, which, it will be noted, will have involved solving some small prior problems like production and despatch.

As a matter of interest, let us summarize the figures thus:

	Passed	Rejected	% rejects
Initial ideas	51	649	93%
Laboratory evaluation	32	19	37%
Dealer evaluation	17	15	45%
Trial Markets	7	10	60%

Final successful percentage 7 out of 700 = 1%

It is partly a tribute to the variety of Du Pont organization that a different viewpoint is taken by the article in the same journal entitled 'Men With Designs.' On the surface, it discusses the work of a firm and team of industrial designers but has much of interest to say and imply about attitudes to development work.

A New Attitude to Design

The industrial designer 'probes and ponders' in order to understand precisely what is wanted of him, then having

COMMENT ON SCIENTIFIC AND INDUSTRIAL MATTERS

by **F. C. JENNINGS**

got his general design ideas clear in his mind, he sets about choosing his materials and considers how to give them the form and shapes he requires. Today's approach to industrial design is entirely different from what it was in the thirties, says the article (as if that was astonishing when most industrial ideas have changed during the last thirty years). In the thirties, the designer was only just becoming aware that his concern was with more than the mere appearance of the product, more than 'just putting the paint scheme on the product after it was all engineered.'

'Today's industrial designer designs a product from the inside out with an eye on its usefulness, cost, safety, ease of maintenance and handling, as well as good looks. His concern carries over to packaging the product, and even to re-designing the corporation's visual symbols to show a family relationship between product and producer.'

Which, then, comes first, the material or the product? It is doubtless more common to have a new material to offer, to exploit, to apply, than it is to visualize and specify a needed or suitable product, but the latter approach is growing because, in the high polymer industries, there is increasing understanding of the relationships between physical properties and chemical structure, so that we are getting nearer to the 'tailoring' of materials into foreseen articles. Still there remains the need for potential users to be told of our products, firstly in general terms and then in precise figures which an engineer can use in assessing and designing.

Realizing this, the Du Pont article has an insert giving the general properties of five of its resins. It begins thus:

ZYTEL nylon resin — 'A tough, mechanical plastic that is self-extinguishing. It is used in housings, gears, bearings, and a variety of high-quality consumer products.'

DELRIN acetal resin — 'New in 1960, it has excellent mechanical properties, very good dimensional stability and stain resistance. It's being used where metal might have been used before.'

This brings me back to where I began — H. E. Pebly, Jun., and his Plastics Evaluation Center. He quotes Kettering's epigram that the difference between fundamental and applied research is about 20 years, and the Center is set up to reduce that time. Wide as are the commercial applications of plastics, their military uses are limited by lack of exact knowledge of their properties and especially of their reliability. There are many plastics firms; most of them are small and highly competitive. US defence needs demand a ready source of information on plastics properties from an unbiased centre outside the industry. The establishment of the Plastics Evaluation Center follows the lines of the Defense Metals Information Center which has had such success. In brief, the PEC is a device to help the armed services designers with technical information on the properties and behaviour of plastics.

'The traditional passageway for communications is the library. One means of improving communications is by strengthening our libraries and equipping them with one or another of the countless varieties of electronic machines that take the place of human bibliographers in tabulating and searching for relevant information.'

But this is not all, says H. E. Pebly, Jun., valuable as such libraries are, they omit one 'indispensable ingredient . . . the technical judgment factor.' For engineers, the librarian must use a method different from the one he uses for research scientists.

'The research scientist will willingly read and conduct exhaustive literature searches, but the engineer is less well equipped and differently oriented, with many demands on his time. . . . If information is not readily at hand on a material or system, he normally will pass it by for later consideration. For the scientist, information needs to be complete; but for the engineer, information needs to be evaluated.'

Advances in Plastics

If you wish not for precise figures on the properties of plastics but for a general view of what is happening in the plastics field, you will find it set out for you in the same journal (*Plastics Technology*, July 1960) in the five-page review by C. B. Thayer of 'Advances in Plastics Materials, 1959-1960.' Here are a few of the points he makes.

'Several of the new materials which have been introduced during the past five years are gaining ground in volume of use. Thermoplastic materials which cost more than 40c. per lb. have to find applications where their unique properties dictate their use.'

Among the new materials he notices are several brands of polycarbonates, Du Pont's 'Delrin' acetal resin, Hercules' 'Penton,' acrylic polymers and copolymers, and phosphonitrilic chloride polymers, which have high-temperature resistance such as to make them possible as rocket materials. Advancing missile designs, indeed, have requirements beyond the properties of commercially-available materials.

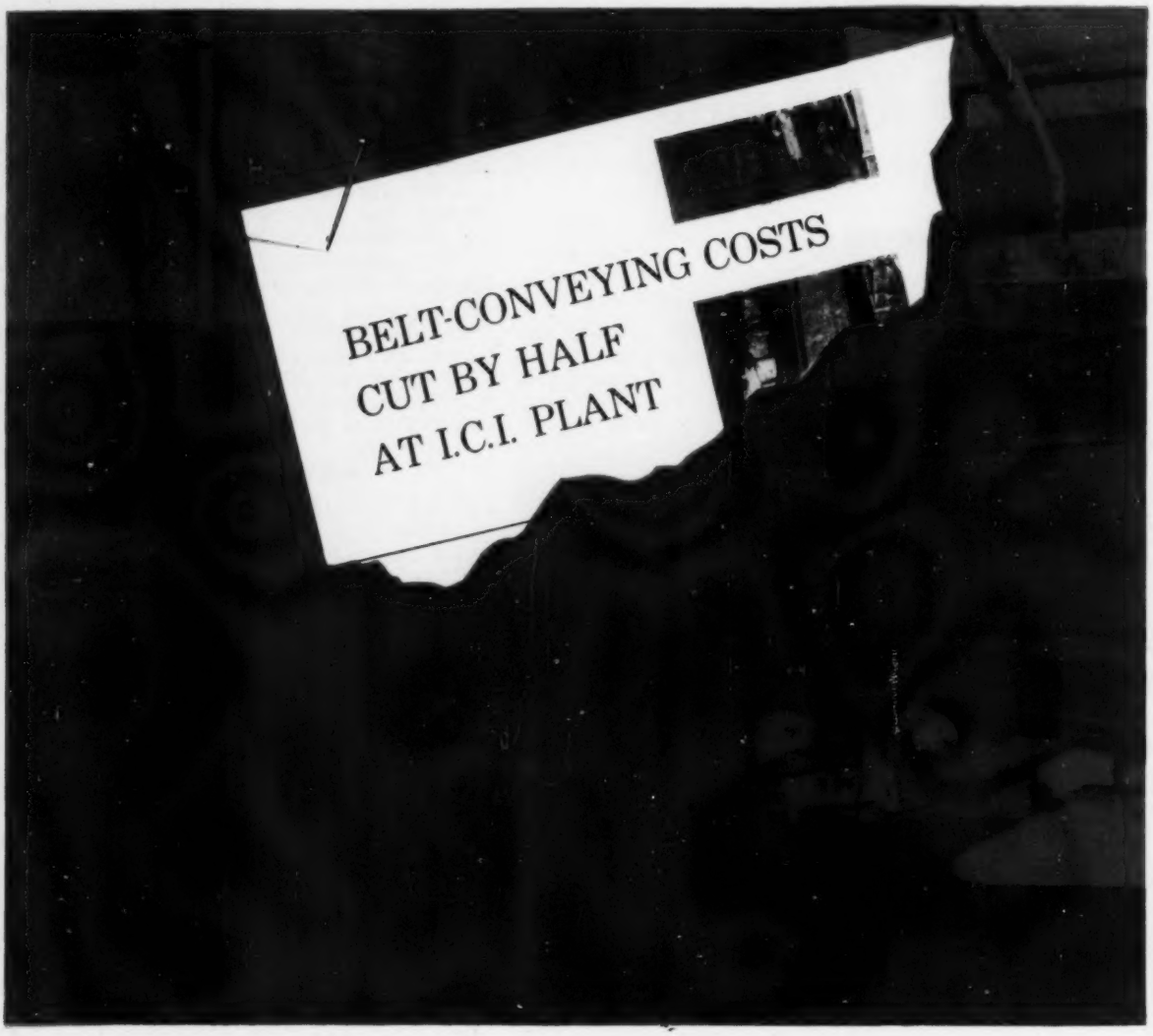
By the end of 1959, polythene production in the US had passed the half-million tons mark and consequently there is a growing technical literature on its properties, processing, compounding, and applications. New ethylene copolymers are creating interest. Polypropylene, too, is becoming more and more available. It has found good application in car seat covers and outdoor furniture in the form of monofilaments woven into webbing. Current production capacity in the US is estimated at 60 million lb. and by the end of 1961 this may well become 43 million.

For upholstery, both urethane and polyvinyl chloride foams showed considerable growth last year.

The remainder of this excellent survey by C. B. Thayer deals with polystyrene, polyvinyl chloride, epoxies, polyesters, films, research and development, and ends with a few industry notes. Recent trends, he says, 'have shown very large increases of plastics usage in automobiles, household appliances, textiles, electronics, and vending machines. These industrial fields seem likely to double or triple their usage of plastics within a very short time.' And he ends with a comment which is a pertinent rejoinder to H. E. Pebly's thesis discussed above:

'One of the encouraging factors . . . is the high degree of interest displayed by product engineers and manufacturing engineers in learning all they can about the properties so they may be correctly designed and fabricated for maximum utilization of the inherent physical properties.'

CHARLES JENNINGS



Costs cut–

By installing a Butyl Rubber-covered conveyor belt at their Billingham Chemicals Plant, Imperial Chemical Industries cut the cost of belt-conveying phosphate fertilizer by half.

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Because of the heat of the fertilizer (about 115 degrees centigrade), its corrosive properties, and the usual damage from moisture and ageing, even the best synthetic rubber belts used previously have worn out in a year, after shifting about 132,000 tons. The Butyl Rubber belt was installed four years ago and has shifted 650,000 tons.

ESSO MEANS BUSINESS IN CHEMICALS

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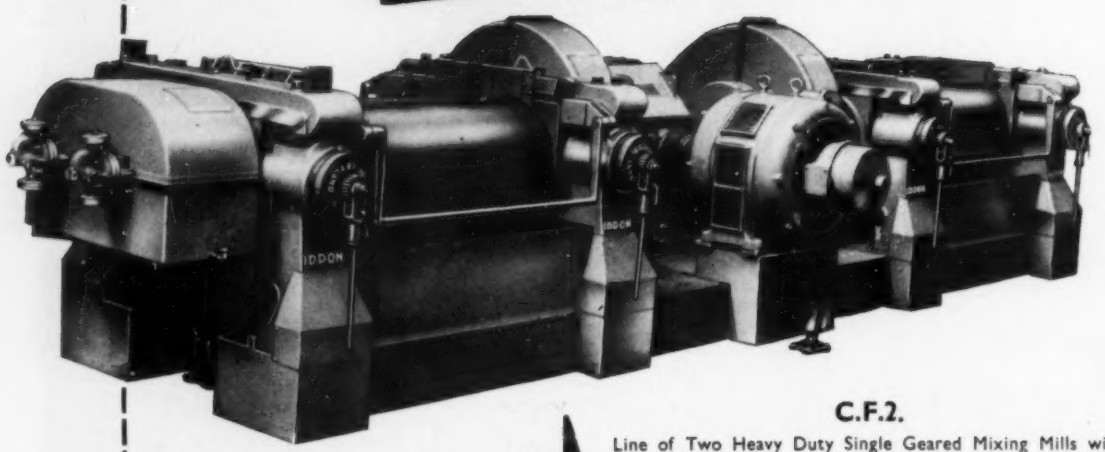

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MEN *and* MATTERS

A Review of People and Events

by Peter Richards

PARTS of Ireland are not so emerald these days, but not many people mind. Certainly not the Irish, who have more bitter unemployment memories than most. Amongst the plants that have been opened recently in Ireland's new Industrial Revolution is Du Pont's neoprene complex at Maydown.

In Eire more than twice as many factories are expected to go into production this year as in 1958 and 1959. At Whitegate, Co. Cork, the setting up of a refinery there may be the lead-in towards the establishment of a petrochemical industry.

Factors in the development of Ireland have been full employment and land shortage in England, Germany and Holland, cheap labour and generous financial assistance. Ready-built factories are available together with grants to cover half the cost of machinery and low taxes.

Opening Up

With the prospect of an expanding home market in Ireland many companies are establishing new sales branches there. Albright and Wilson opened a new sales office in Belfast on Monday. In charge is Mr W. Kerr, a 38-year-old ex-Fleet Air Arm pilot, who taught science at Kilmarnock Academy before joining A. and W. in 1955. He moves to Belfast from Glasgow.

From Belfast to Dublin: where Edward J. Power has been appointed general manager of the Irish Dunlop Co. in succession to R. C. Flanagan, who has retired.

Mr Power joined Dunlop at Dublin in 1928, moving to Cork in 1934 as a buyer. In 1941 he became personnel manager. He returned to Dublin in 1959 as assistant general manager.

Send Your Rubbish

This winter a Leeds factory will be heated entirely by its prospective customers. The factory will save about £30 fuel charges every week.

Altruistic customers? Not quite. The factory is a branch of the Boston Marine and General Engineering Co., of Wolverhampton. One of the company's products is the Hoskinson Incinerator which claims to give smokeless combustion when fired with any combustible material, and is said to deal efficiently with all rubbers and plastics.

Boston invited (and still invite) customers to send samples of their rubbish to be burned as a test in the incinerator. Overnight, rubbish came in from all directions. It flooded in by every post.

The company was delighted. Not only does it help to prove their sales points—it keeps the home fires burning.

Air Dunlop

When I wrote about the new Dunlop symbol I said that the first advertisement incorporating it was rather dull and diffuse. 'Even the employees marching to work — you could tell it was to work — seemed to feel it.'

Now, as a matter of historical accuracy, Dunlop tell me that the photograph used in the advertisement was taken when the employees were coming out of the factory for the lunch break.

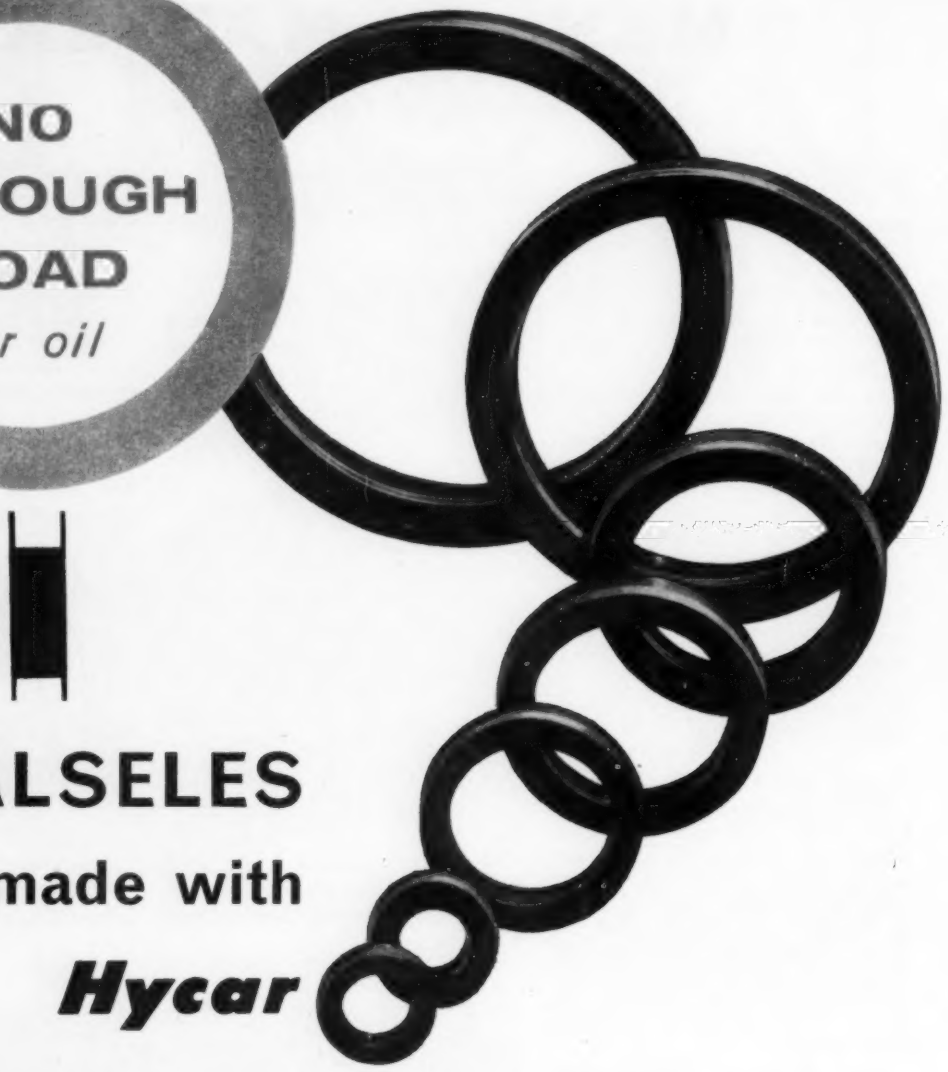
Incidentally I have had a number of remarks made to me about the Dunlop symbol: most of them favourable. One person did, however, say that behind the Dunlop symbol was a secret purpose—the company was about to start its own air-line.

India Works Manager

Harry Wogden, plant superintendent of the Toronto Factory of Dunlop Canada Ltd., has been appointed general works manager of the India Tyre and Rubber Co. Ltd., at Inchinnan, Renfrewshire. Mr Wogden, who is 37, graduated in engineering from Toronto University in 1951 and was later assigned to study production methods and product development at the Dunlop Rubber Co. at Liverpool.

In 1952, he returned to Dunlop,

Two Dunlop technicians fitting Bluebird's tyres before the accident on Bonneville salt flats. Three of the tyres were still fully inflated at 100 psi after the smash and Campbell himself, in a telegram to Fort Dunlop, has reaffirmed his confidence in the design. The car was accelerating at the rate of about .49g—close to the theoretical maximum on Bonneville salt and in itself a tribute to the strength of the tyres



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Toronto, as development engineer for the Pillofoam division.

In 1954 he was appointed manager industrial engineering and a year later became plant superintendent.

EFB President

As announced briefly in *RJIP* last week, T. L. Garner, chairman and managing director of Precision Rubbers Ltd., has been elected president of the European Federation of Purchasing — the first Briton to receive the honour.

Mr Garner, who is 58, is also a director of the John Bull Rubber Company and Metalastik Ltd., and a past president of the Purchasing Officers' Association, of which he has been a council member since 1938.

Joining the Avon India Rubber Co. as a chemist in 1925, Mr Garner was appointed chief chemist and development manager to the John Bull Rubber Co. in 1931. In 1949 he founded Precision Rubbers Ltd., merging with the John Bull Rubber Co., and Metalastik Ltd. in 1955 to form the John Bull group.

He is a member of several scientific bodies and associations in Great Britain, including the Royal Institute of Chemistry, the Institution of Chemical Engineers, the Royal Aeronautical Society and the Institution of the Rubber Industry.

DCL's New Division

Distillers Co. Ltd. has formed a development division in its industrial group under Dr H. M. Stanley as Controller. The division will be located at 21 St. James's Square, S.W.1. A number of other DCL appointments have been made. C. E. Hollis has been appointed manager of the central research department at Great Burgh, Epsom, and Dr H. W. Ashton has been made manager of the planning department.

The main responsibilities of this division will be the direction and co-ordination of the company's research, forward planning and licensing activities—particularly in the fields of chemicals and plastics.

McKay To France

Alan Grant McKay, factory manager of the Dunlop Rubber Co.'s Stoke-on-Trent plant, has been appointed factory manager, Manufacture Française de Fils Elastiques Ltd. (French Thread Company), Condé sur Noireau. Mr McKay, who is 37, joined Dunlop in 1939 from King Edward's Grammar School, Birmingham.

Sto-Chem's MD

I was interested to read about the new company Witco and US Rubber have formed — Sto-Chem Ltd. — which will produce synthetic latices from a plant in the Midlands. Douglas Roberts, the managing director of Sto-Chem — incidentally he is managing director and not general manager as stated in last week's *RJIP* — is a Yorkshireman, who was educated in Sheffield and Manchester.

Aged 40, he has been a member of the Institution of the Rubber Industry since 1941.

* * *

Now in Czechoslovakia are members of the Projectile and Engineering Co. Ltd. (Peco), including Mr J. A. Baldry. It is understood that the object of their visit is to negotiate a contract for the sale of Peco machinery.

Question Corner — 136

(Second Series)

461. What equipment is required for coating wire with polythene?

(Answer next week)

Answer to Question Corner — 135

460. Blown polythene film has many advantages over flat film. In blown film extrusion, molecular orientation is achieved in both the machine and in the transverse direction, the relative degree depending on the operating speed of the haul-off equipment. This results in a film of more uniform strength in both directions.

By controlling the extrusion conditions it is possible to make the physical properties practically equal in both the longitudinal and transverse directions, so achieving maximum toughness. Also it is possible to increase or decrease a given property.

The absence of one or two lengthwise seam seals in a bag made of blown film is another advantage. It is only necessary to have one seal across the bottom. Simpler, faster and lower priced bag-making equipment can be used.

Some blown film converters slit the flattened tubing at one edge during the wind-up and the tube may then be wound in a double layer, or as flat film having twice the width of the lay-flat tube. Alternatively, the tubing may be slit at both edges and wound as two flat films on two winder cores which allows the film to be treated and printed as a flat film. It is thus possible to produce either blown or flat film from the same extruder die.

In the production of large bags for packing produce uniformity of the long lengthwise seal is a problem, unless the bag maker is operating under optimum conditions. Variations in film properties, and even atmospheric conditions, and other factors can affect the strength of the seal.

(Another question next week)

Polly Ester Says . . .

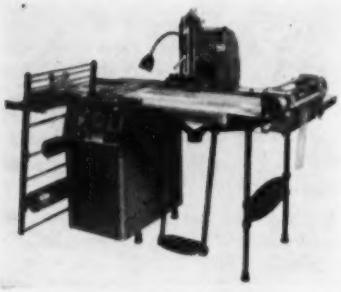
'Natta — what the Americans did when they didn't think of it first'

Film Transfer Mechanism

H.F. WELDING MACHINE ACCESSORY

EXPANDING uses to which high frequency plastics welding machines are being put is creating the necessity for specially designed, yet simple, accessory units that can be attached to existing machines and so increase their production capacity.

H.F. Industrial Services Ltd., who



Film transfer mechanism fitted to an Acme high frequency welding machine made by H.F. Industrial Services Ltd.

make the ACME range of plastic welders has introduced a simple, yet rapid action, hand-operated film transfer mechanism.

Designed for use with ACME machines only, it is interchangeable between all table models and is, in effect, a simple frame with feed and take-off units at the ends. This bolts directly onto the platen and can be attached or removed at will.

To the left is the feed unit on which are mounted three reel holders and the necessary material guides. On the top frame is the transfer gripper and to the right is the take-off unit.

Operation

Film is fed from the feed unit, in either double or triple thicknesses, through the guides then under the stay-bar into the transfer gripper, thence to the take-off unit, and the transfer mechanism is pre-set to the required transfer-length.

The transfer-mechanism handle is turned to the right, gripping the film firmly and is then drawn from the left to the right of the machine until it reaches its pre-set stop, drawing the film from the feed unit and placing it in position under the welding electrode. At the same time the take-off roller unit comes into operation and draws the film across the platen, this double action eliminating any fear of distortion to the film or breakage of the tear-seal.

Whilst the weld is taking place the gripper-transfer is, independently of the take-off welder, returned to its original station. This is achieved by turning the handle to the left, which releases its grip on the film and pushes it along its track.

Registration of material length, when non-stick barrier is used, can be adjusted to handle up to 25in. with a maximum width of 15in.

When it is not practical to use a non-stick barrier material a simple stripping device can be supplied, giving a registration length up to 16½in. and a material width up to 15in.

This stripper passes underneath the film and comes into operation when the gripper-transfer is returned to its original station on completion of weld.

The unit has been designed to handle materials varying in thickness from double 0.003in. to double 0.025in., and because of the extreme sensitivity of the transfer-gripper, two thicknesses of .001in. film can be confidently handled. Transfer registration correctly set, will give an accuracy in the order of ± ½in.

Industrial Health Report

DANGERS OF BENZENE POISONING

THE effect of dust on the lungs is the special subject of the 1959 annual report of the chief inspector of factories on industrial health. A section on pneumoconiosis says that the role which carbon may play in this disease has been mainly a problem for the coal-mining industry — but details are quoted of a case in the rubber industry.

The death of one man is thought to have been due to exposure to carbon black during 20 years in the rubber industry. Autopsy showed that the lungs had the appearance of pneumoconiosis with masses of black pigment and small necrotic cavities.

Benzene Investigation

No cases of chronic benzene poisoning occurred during 1959. Benzene is one of the most toxic solvents still in use in industry. Large quantities quickly induce unconsciousness: chronic poisoning may result from a much smaller dosage spread over a period. The report quotes an example from within the rubber industry.

A mixture of benzene and toluene in equal proportions was used as a solvent for a neoprene mixture in the manufacture of rubber coated cloth and of special blankets for printing rolls, in circumstances which permitted escape of solvent fumes into the workroom.

Blood examinations made by a medical inspector of thirty men exposed to benzene showed that eight of them had signs of benzene absorption. These eight men had been employed on this work for periods ranging from two to twenty years. The fact that workers appear well, comments the report, does not preclude the possibility of damage to the blood forming organs from benzene.

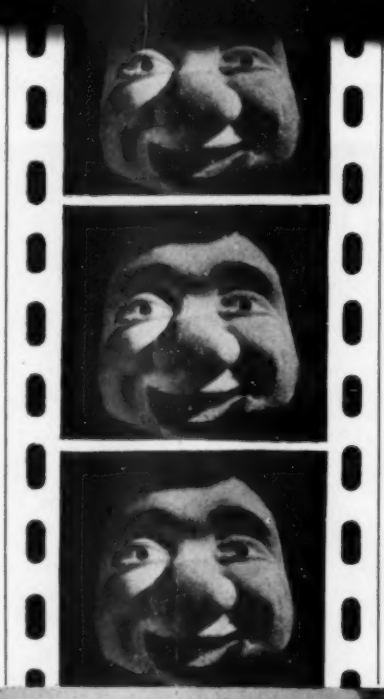
In this case, after the dangers of benzene poisoning had been pointed out, the firm succeeded in finding a less toxic substitute for benzene, which it had formerly considered essential for the process.

There were 206 'gassing' accidents during the year — cases caused by the inhalation of fumes or gases — of which 14 were fatal. Chlorine accounted for 29 accidents and benzene one (none of these were fatal).

The chief inspector said in his introduction that medical resources had been increased with the opening of a new pathological laboratory. This makes it possible to examine an increasing number of workers in a variety of fields.

Provisions under the 1959 Factories Act mentioned in the report are those strengthening the precautions to be taken against explosive dust, dangerous fumes and lack of oxygen in confined spaces; and the precautions for making workplaces and the means of reaching them safe, and for the protection of people working near or above vessels, pits, and so on, holding dangerous substances.

No date had been fixed by the end of 1959 for giving effect to section 19 of the Act, which requires that persons in charge of first-aid boxes must satisfy conditions of training prescribed by the Minister. This section will not be brought into operation until an Order has been made prescribing standards of training, and until factory occupiers have had reasonable time to train people to those standards.



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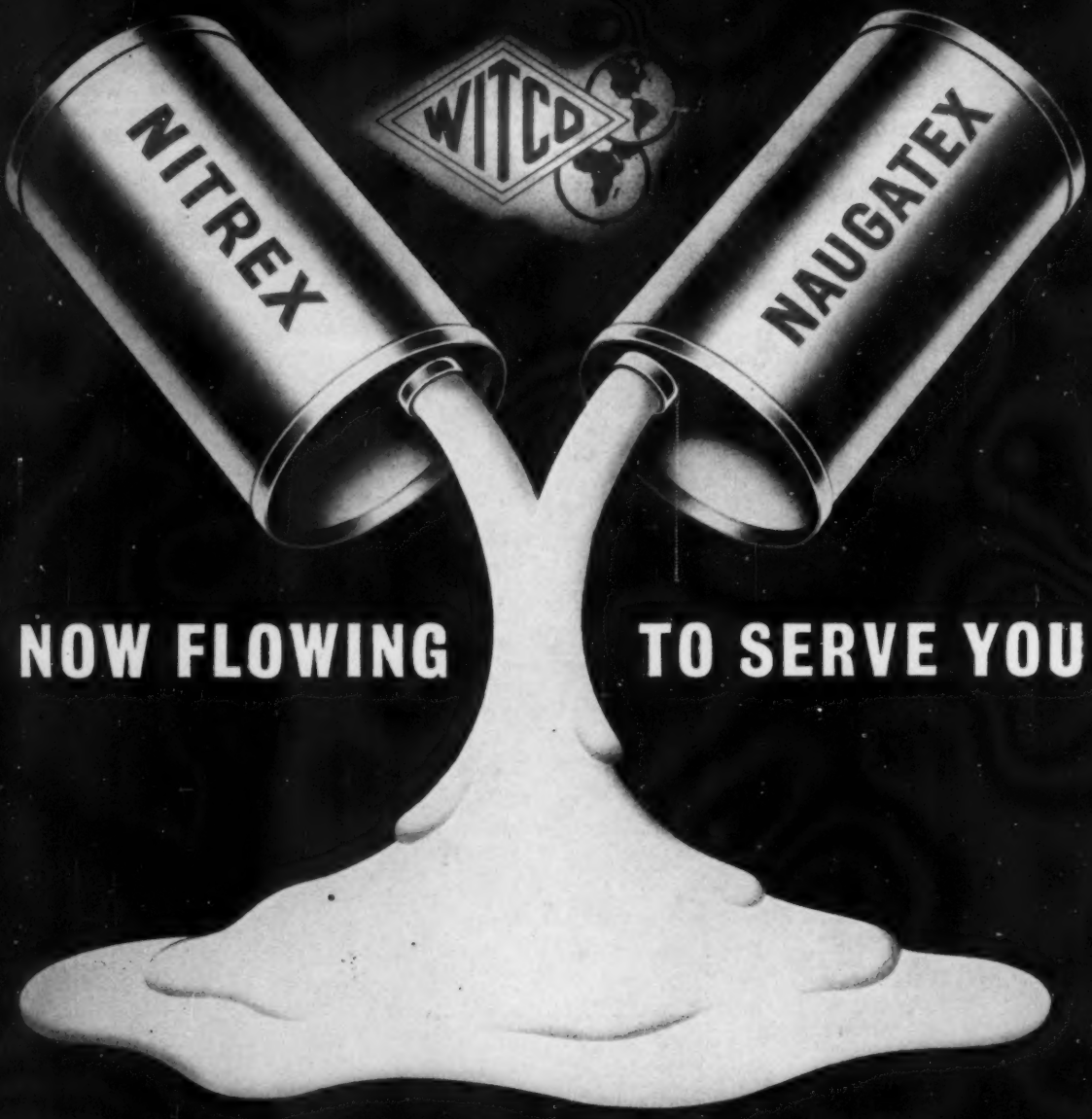

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Plastics in the Midland Red

ALL exterior shaped parts of the new Midland Red D.9 omnibus, now in service on town and country routes in the Birmingham area, have been fabricated from glass-fibre reinforced polyester resin. The D.9 is the first double-decker omnibus to use reinforced resins on a very large scale, and over 100 mouldings—many of which are based on Bakelite polyester

resin — have been incorporated into the vehicle. A fleet of 95 is now being built.

The front and rear panels of the D.9 are made entirely from reinforced resin and the vehicle is the first of its type to be made in the Midland Red workshops as a production model.

The manufacturer says that the basic idea behind the design of D.9 was to produce a passenger vehicle combining maximum strength with lightness to help keep maintenance and running costs to a minimum. Equally important from the production aspect was the considerable saving in tooling costs and time.

Much of the interior of the new bus also incorporates mouldings based on polyester resin. Other parts made from the same plastics range from the cab and emergency doors to the driver's instrument panel housing.

The D.9 seats 72 passengers, and the body and chassis are of integral construction. Other mechanical features of importance include variable rate rubber suspension, power assisted steering, independent front wheel suspension and semi-automatic transmission.

Trim Mouldings

Woodgrained finished plastic trim mouldings in over 150 different stock cross sections are being manufactured now by the Silvatrim Mouldings division of Glass Laboratories. These new mica finishes are being added to the current line of brass, copper, chrome and gold metal-like mouldings.

In addition to woodgrains, the mouldings are also available with marble, speckled or glitter patterns to perfectly match the finish of any high pressure laminate, such as Formica.

William M. Gaston has been made managing director of B. F. Goodrich do Brazil, S.A. His headquarters will be in Sao Paulo.

NEW BPF MEMBERS

Three more companies have been elected to the British Plastics Federation. They are: W. A. Mitchell and Smith Ltd. (Plastics Material Manufacturers Group and Reinforced Plastics Group); Croxton and Garry Ltd. (Raw Material Suppliers Group); and C. F. Taylor (Plastics) Ltd. (Reinforced Plastics Group).

A and W Belfast Office

Albright and Wilson (Mfg.) Ltd., opened a sales office in Belfast on September 19. The new office is in Imperial Buildings, 72 High Street, Belfast.

W. Kerr has moved from Glasgow to take charge of the new sales force.

Craven Electronics Ltd. have moved to Victoria Works, Bingley, Yorkshire (Telephone Bingley 2362/3).

South Africa Quieter

DOWNWARD PRICE TREND ARRESTED

IT is reported from Durban that the natural rubber market has drifted into a quieter period, with outlook uncertain. Although values have declined gradually, the rubber squeeze recently has left a feeling of apprehension about a further squeeze developing later. Cautious dealings have resulted, and the downward trend in prices shows signs of having been arrested despite continuing poor consumer demand. The price of natural rubber has been averaging 35½d. per lb. cif Durban for RSS No. 1, and the latex price is now 20s. 4d. per gallon cif Durban.

Shortages in basic materials are not giving cause for concern at present. Trading conditions in the replacement market for tyres are quiet and, while the original equipment demand has been firm, it is anticipated that this demand will ease in future months. Steady production levels are being maintained at the leading tyre factories.

Largest Deep-Freeze

Bradford Insulation (S.A.) (Pty.) Ltd., P.O. Box 9792, Johannesburg, are manufacturing and marketing BI Insulwool for zero to 1,200°F. temperatures and Frigopor for minus 100°F. to 160°F. The firm also maintains a competent service department to advise on the correct types of insulation. This department undertakes the complete survey of all pipes and fittings in an existing plant and recommends the most economical thickness of insulation to apply. The insulation of the largest deep-freeze room in South Africa with Frigopor blocks was undertaken by Amsco Export and Import Corporation (Pty.) Ltd., of Durban, in the freeze room of Lever Brothers' new ice-cream factory.

There the temperature must be kept constant at minus 30°F. The room measures 75ft. by 55ft. and is 12ft. from ceiling to floor. The floor, ceiling and walls are lined with three 4in. thicknesses of Frigopor. A 3in. mat of vapour-proofed concrete protects the floor insulation, while the lower 6ft. of the walls is covered with $\frac{3}{16}$in. tempered Masonite.

This plant is in Boksburg, near Johannesburg, and is for the manufacture of Walls' ice cream. In the new Colgate-Palmolive factory, also in Boksburg, Insulwool was used extensively for pipe and vessel insulation. The roof on the concourse to Johannesburg's new railway station has also been insulated with Insulwool.

Tyres Up

The prices of tractor tyres and tubes were increased in South Africa, with effect from August 3. The prices of front tubes and tyres have gone up by 7½%, and of rear tubes and tyres by 12%.

Plantation Commentary

NATURAL RUBBER CONFERENCE

by our Malayan Correspondent

FROM KUALA LUMPUR

ADVANCE contingents from 22 countries have been arriving for the past week for the biggest conference on natural rubber ever held. In all 260 delegates are expected to participate.

To be held from September 26 to October 1 in two concurrent sessions — one covering production and the other utilization — the conference organized by the Rubber Research Institute here has snowballed beyond the wildest dreams of its organizers.

Applications to send representatives have come from all over the world, 81 papers have been tabled for presentation, and a special commemorative stamp is to be issued by Malaya's Postal Department.

Referred to simply as 'The Natural Rubber Research Conference,' this get-together of leading scientists and rubber technicians from five continents will cover such a wide field that a special book is to be compiled on its proceedings. 'The book is almost certainly destined to become a standard work for all those associated with natural rubber, from the planter to the consumer,' said Mr Hugh Rodwell, of the Natural Rubber Bureau in London, one of the conference's first arrivals.

However, the conference is not intended as a pow-wow to draw up a declaration of war against synthetic rubber. 'We prefer to think of the relationship between natural and synthetic as a healthy rivalry rather than a battle to the death,' said Mr Rodwell.

The conference will bring together research workers from universities, institutes and commercial firms in the main rubber producing and consuming centres of the world, with three main aims before them. These are to improve the quality of the product, devise special forms to extend its use, and cheapen the production costs. Broad in scope, the conference should reveal the extent of the effort that is being put into natural rubber research all over the world, and inform everyone on the latest developments.

The participants will gather at the Rubber Research Institute on the morning of September 26 and spend the day seeing the work being done there. Established in 1925, the Institute has played no small part in making Malaya the world's leading rubber producer of natural rubber, with an output of 698,249 tons in 1959.

The Minister of Commerce and Industry, Inche Mohamed Khir Johari, will formally open the conference the following morning, after which comes an address by a leading American biologist, Professor James Bonner, of the California Institute of Technology. The estimated cost of engaging all the translating and interpreting staff is £2,500. Four translators and interpreters have been flown from London; one from Bangkok; and six have been engaged locally.

H. Bugbee, president of the NR Bureau in Washington, at the Rubber Research Institute, Kuala Lumpur, where the natural rubber conference starts in two days time. Here he is discussing technically classified rubber at the testing station with Mr Wren

The special stamps to commemorate this conference and the International Rubber Study Group conference, which began on September 19, are now on sale throughout the country. A 6 cent stamp will be issued in connexion with the Natural Rubber Research conference and a 30 cent stamp will commemorate the International Rubber Study Group's 15th meeting. The stamps will be on sale for three months or until stocks are finished.

As well as this 6 cent value to commemorate the rubber research conference, the Federation of Malaya has also brought out a 30 cent stamp to mark the International Rubber Study Group's Conference

Study Group Conference

The leader of the Malayan delegation to the 15th meeting of the International Rubber Study Group in Kuala Lumpur is the Minister of Commerce and Industry, Inche Mohamed Khir Johari; with the Assistant Minister, Mr Cheah Theam Swee, as alternate leader. Two Singapore Government officials are attending the conference, which began on Monday, as part of the Federation delegation. They are Mr Liew Khai Yeong (Prime Minister's office) and Mr Lim Yong Peng (Commerce and Industry Division, Ministry of Finance).

The Federation delegation includes the Controller, Export Commodities Division of the Commerce and Industry Ministry, Mr Lew Sip Hon, who will be deputy leader; the Controller of Rubber Research, Sir Geoffrey Clay; the Acting Director of the Rubber Research Institute, Mr C. G. Akhurst; the Chairman of the Government Rubber Replanting Scheme, Inche Salim bin Mohamed Akib; and the Chairman of the Malayan Rubber Export Registration Board, Mr Chew Hock Leong.

The first plenary session of the conference has heard an address by the Prime Minister; considered the problems of stabilization of rubber prices; and reviewed world rubber supply and demand.

A communique will be issued shortly.

The Price of Rubber

Much has been said and written in Malaya in the past few weeks about the price of natural. Starting the ball rolling was H. C. Bugbee, president of the Natural Rubber Bureau in Washington, who said here that if the price of natural rubber remained close to 30 cents (US) a lb. (90 cents Malayan) consumption would have a chance of maintaining its present level in relation to the consumption of synthetic.

This view, however, was not shared by the president of the Malayan Estates Owners' Association, Sir Clough Thuraisingham. He considered that the high natural rubber price was not in itself harmful to the future of the industry.

'The price of rubber is fixed not by Malayan producers nor by the Far Eastern producers but by the supply and demand situation in the consuming countries,' he told the Association's annual meeting.

The average price of rubber for the past year has been about $1.02 (Malayan) a lb.

Sir Clough said that since the last World War all commodities in the world had become many times costlier. The price of natural rubber has not risen proportionately but the cost of labour, its production costs and other expenses which the rubber producer had to meet had risen tremendously.

'Therefore, the price of natural rubber can never be claimed to be excessive or stem from unfair demands by the producers,' he added. The cycle of slump and boom in the rubber industry, the wave of prosperity, was known to everyone, said Sir Clough. Producers were told that if the price of natural was high, manufacturers would buy synthetic, but when the price of natural was low, no one seemed to have an answer but to say that there was over-production.

'I prefer a higher price for my rubber than a lower price and to fight the competition of synthetic with every means I have,' added Sir Clough.

However, referring to the rubber missions overseas, he indicated that he was not wholly satisfied with their feeble start.

'As the competition with synthetic becomes keener and the demand for new rubber becomes greater,' he concluded, 'I am firmly of the opinion that we cannot escape the imperative need for a world-wide survey of natural rubber, natural rubber requirements and the technical services that we must provide to consumers if natural is to hold its rightful place in the world.'

Smallholders Respond

One of the most encouraging features of the rubber replanting scheme in Malaya has been the response from the smallholders, slow though they were at the beginning to take advantage of the assistance offered.

In 1958 the percentage of planting and replanting on smallholdings was actually higher than on the estates. The pace, too, has been kept up. Last year smallholders replanted more than 74,000 acres, 12,000 acres more than in the year before, and this year applications to replant have shown a considerable increase.

The smaller estates, however, have no such cheerful story to tell. At the beginning of last year, there were no fewer than 709 estates of over 100 acres each which had not registered with the scheme, and in its latest issue, the Rubber Research Institute's bulletin adds a disturbing analysis of small estate failure to increase their acreage of high yielding material.

On estates of between 100 and 500 acres — accounting for 303,000 acres or 15% of the total estate acreage in Malaya — only 14% of the planted acreage is immature rubber.

17% of the planted acreage on these estates is mature high yielding, leaving 69% to be replanted. The estates in the 500 to 1,000 acre group show up better, with nearly half their acreage under mature and immature high yielding material.

But a sample survey by the RRI shows that over the whole range of 100 to 1,000 acre estates the position is still unsatisfactory.

Only 30% of the estates surveyed have more than 20% of their individual areas under replanted immature rubber; half have no immature rubber at all; and the rest have 20% or less, or 10% or less. Thus some 70% of estates of under 1,000 acres have failed to take advantage of the scheme under which a grant of $400 (Malayan) an acre is provided towards the cost of replanting on up to 20% of the planted acreage of an estate.

Since estates must have high yielding rubber plants established by the end of 1962 in order to obtain replanting grants, the laggards would do well to heed the RRI bulletin's advice to turn to replanting immediately.

Leyland Annual Report

STATEMENT ON SOUTH AFRICAN SUBSIDIARY

AN important reference to the uneasy conditions in South Africa is made by the chairman of the Leyland and Birmingham Rubber Co. Ltd., R. W. Lunn, in his annual report. The company controls the South African Rubber Manufacturing Co. which has a factory in Natal. The affairs of this company have rarely been mentioned in the past, says Mr Lunn. Following the events of the last eight months he thinks an explanation is desirable.

'We have spent over thirty years in developing this South African subsidiary,' he continues, 'and it has become a very valuable asset which makes a notable contribution to our well-being. With a background of Leyland experience and Leyland men all aspects of the development have been satisfying and rewarding. Now we feel ourselves at some risk through causes which are entirely beyond our control. I have no wish to present a distortion to you and I ask you to accept my statement with calmness. But it would be wrong to assume that all is well and that we are certain to come out of this turmoil undamaged.'

The chairman stresses that the trouble is of a political nature — and the company keeps out of politics as far as it can.

After referring to the good worker relations in the UK company he goes on to say that in essence Leyland has deliberately encouraged the same kind of relations among their African workers.

'They have a sense of fairness and justice and they are by no means insensible to our efforts. We have pursued what I believe to be an enlightened course in relation to our African workers. We still pursue that course but South African legislation puts some quite severe limitations on what we may do. I believe that we really claim and have the loyalty of the African workers — but I never forget that whilst we seek and try to deserve that loyalty to our organization, there are larger and more fundamental loyalties which could make that seem a little thing.

'I want to say nothing more on this subject. It would be unfair to say less. You cannot and must not consider what I have said as a declaration of panic. There is no panic. There is work to be done and we shall go on steadily making what contribution we can towards the peace and stability of South Africa. This is no time to cast away.'

Future Expansion

In the rest of his report Mr Lunn remarks that development work in all activities of the company continues at a steady rate. He expects to spend 'fairly heavily' on new plant and new buildings in the future.

Net profit after tax is £345,000; £100,000 is carried into reserve and a dividend of 15% has been declared.

The meeting will be held in Leyland on October 12.

PATENT SPECIFICATIONS

The following information is prepared from published Patent Specifications by permission of the Controller of H.M. Stationery Office. The full Specifications can be obtained from the Patent Office, 25 Southampton Buildings, W.C.2, at 3s. 6d. per copy (including postage).

Synthetic Resin Compositions

No. 846,378. General Mills Inc. Application and Filed, October 28 1958. Published, August 31 1960.

Polyester polyamide composition consisting of a polyester resin derived from a di or poly carboxylic acid having a non-benzenoid double bond, preferably adjacent to at least one carboxyl group and a polyamide derived by reaction of a polymeric fat acid and an alkylene polyamine. The polyamide having an amine number greater than 50 and a melt viscosity of 100–2,000 poises at 40°C. These resin compositions can be plasticized and toughened without substantially destroying the structural properties of the hardened thermoset materials. The polyamides contribute towards excellent wetting and adhesive properties towards glass fibres.

Improved Butyl Rubber

No. 846,443. Columbia Southern Chemical Corporation. Application and Filed, January 24 1957. Application in USA, January 31 1956. Published, August 31 1960.

Production of improved butyl rubber vulcanizates and substantial elemination of the discoloration customarily fund in such vulcanizates that have been prepared from heat treated masterbatches containing butyl rubber and a silica pigment and a promoting agent. The silica pigment is hydrated and has an ultimate particle size below 0.1 micron and a surface area of 25-250 square metres per gram. The promoting agent is of a non-discoloring type examples of which are N,N' diphenylethylene diamine, a heat reactive, oil soluble alkyl phenol-formaldehyde resin or phenylhydrazine.

PVC Metal Coating

No. 846,492. American Marietta Company. Application and Filed, July 26 1957. Application in USA, August 31 1956. Published, August 31 1960.

Relates to high molecular weight polyvinyl resin dispersions suitable for coating metal surfaces, improved primers therefor, to a coating process and to the coated metal articles.

A fluid resin dispersion is made, capable of being spread on a surface and thereafter fused by heating. This contains a resin, a plasticizer content and a volatile liquid dispersant consisting essentially of mixed aromatic alkyl substituted polynuclear hydrocarbons. The primer consists of a resin dissolved in a liquid organic solvent. 75% of the resin consists of vinyl copolymers of vinyl halide with vinyl monomer having formula CH_2 CHX in which X is a saturated aliphatic cycloxy radical. At least some of these copolymers contain some derivative of maleic anhydride or acid and the rest of the resin mixture is a condensation product of pp' dihydroxy diphenyl 2,2' propane and formaldehyde. This primer is baked onto the metal surface prior to application of the coating resin dispersion.

Shorter Abstracts

Vulcanization Accelerators. 837,159. Farbenfabriken Bayer AG. Filed, January 10 1958.—Pentachlorophenyl sulphenamides are claimed as vulcanization accelerators for natural and synthetic rubber.

Polymerization of Olefins. 837,251. Petrochemicals Ltd. Filed, April 29 1958. — A catalyst contains the two components of a Ziegler-type catalyst and a third component which comprises nickel, cobalt, platinum, iridium or copper in the form of the finely divided metal or a metal compound.

Dunlop Australia

Group profit of Dunlop Rubber Australia fell from £A1,812,635 to £A1,720,580 in the year to June 30 1960, and the parent's profit is £A1,643,492, compared with £A1,783,319 previously. The dividend is repeated at 10%.

Japan to Make Neoprene

The Show Denko Company, a leading Japanese chemical firm, has announced it will establish a joint US-Japanese chemical firm to manufacture neoprene in Japan with a capital of 2,340 million Yen of which the Du Pont will contribute half.

The new company will be set up in Tokyo following Government approval, expected later this month or early next month.

Under the present plan, Show Denko said, the new company will construct a plant capable of turning out 8,000 tons of neoprene annually.

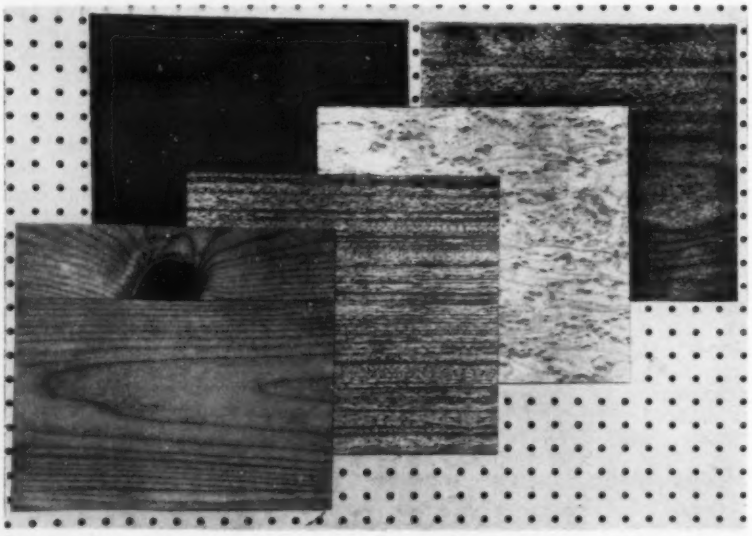
Present domestic demand for the product is estimated at 5,000 tons a year, and this is expected to grow to more than 8,000 tons in a few years. All neoprene used at the moment is imported.

Aeropreen Blaze

It took two-and-a-half hours to control a fire at Aeropreen's High Wycombe factory on the night of September 21. The fire started in two tons of scrap rubber. The normal business of the factory will not be affected, a spokesman said on September 22.

600 Registered

The figures 600 have been accepted as a registered trade mark applicable to George Cohen Sons and Company Ltd. This is one of the few cases of registration of a number: the Trade Marks office is cautious about the registration of purely numeral marks.



Storeys have incorporated a special grain emboss on many of the printed wood effects in their new Con-Tact range. The finished result is barely distinguishable from actual veneered surface

Rubber and Plastics Stock Market

A REVIEW OF PRICES AND TRENDS

THE touch of summer madness seems to have departed from the stock market. Sunshine smiles have departed and as the season enters into Autumn share prices too have begun to fall. Not by far yet. But nevertheless most sections have experienced the cold draught that has been wafting through the rialto since the buyers departed. Not that the boom days have turned to gloom times. No, it is just that investors over the past few weeks have become more cautious, more subdued. The fall in the *Financial Times* index, however, does not reflect any real step-up in the volume of selling. Buyers have just been holding back. In subdued trading conditions shares for the best part drifted through lack of any fresh enthusiasm.

Events as it turned out — both domestic and international — were against any fresh move ahead. The Stock Exchange, for a start, was unable to shake off the effects of another new downward turn by the Dow Jones index, the American share barometer. Other millstones were the Congo pantomime, and Mr K.'s promise of fireworks at the UN meeting. And just to prove that oldie about things happening in threes, it seems that concern is growing as well in certain influential quarters about the effects of the Government's credit squeeze. Only last week came news that a committee from the Federation of British Industries is about to start discussions with the Board of Trade on the subject of the Government's use of monetary curbs as a major economic weapon. It will be interesting to see the outcome of these talks.

From the Board of Trade itself there came a report that after a record start to the year, activity in the plastic industry slowed down a shade in the second quarter. Whereas net sales in the first three months worked out at 146,400 tons, in the next three they were 143,100. This, we were told, represented an increase of around 12% on the second quarter of 1959, appreciably less than the 26% rate of increase which was maintained during the 12 months ending March 1960. Without going into further whys and wherefores (full figures were given *RJIP*, September 17, 435) manufacturers were generally agreed that the figures sounded something of a warning note.

ENGLISH ELECTRIC'S decision to raise £6,600,000 by means of a £7 million debenture stock carrying a 6% interest coupon and offered at £96½, came as a surprise to most people. The terms, however, were generally

Continued on page 473

Share Price Movements

Par Value	Company	1960 High	Low	Sept. 10	Latest
£1	A.E. Ind. Ord.	67/-	48/10½	50/9	48/6
5/-	Albright & W. Ord. ..	31/9	25/9	30/6	28/9
£1	,, ,, ,, 5% Pref.	17/3	15/6	15/3	15/3
5/-	Anchor Chemical Ord...	18/7½	14/9	16/6	16/-
5/-	Andersons Rub. Ord. ..	—	—	3/1½	3/-
£1	Angus Geo. Ord. ..	54/-	34/9	54/-	53/3
5/-	Ault & Wiborg Ord. ..	25/3	20/-	25/1½	24/7½
£1	Avon India Rubber Ord.	46/6	35/-	36/3	36/3
£1	,, ,, ,, 6% Pref.	20/-	17/6	18/9	18/9
10/-	Bakelite Ord.	62/6	39/9	62/-	62/6
£1	,, 6% Pref. ..	19/3	16/9	19/3	19/-
£1	Baker Perkins Ord. ..	45/6	40/-	45/6	46/9
4/-	Bank Bdg. Rubber Ord.	4/3	2/3	4/-	4/-
4/-	Brammer H. Ord. ..	18/6	16/9	18/4½	18/3
10/-	Bridge, David Ord. ..	66/6	53/6	66/6	65/9
5/-	Bright, John Ord. ..	18/6	15/3	17/3	17/-
5/-	Brit. Blting. & Asb. Ord.	—	—	18/-	17/6
£1	,, ,, ,, Pref.	—	—	17/3	17/-
2/-	Brit. Ind. Plas. Ord. ..	12/1½	5/3	10/6	10/7½
2/-	,, 10% (tax free) Pref.	4/9	4/3	4/9	4/9
£1	British Xylonite Ord. ..	112/6	78/9	112/6	110/-
£1	,, ,, 5% Pref.	18/9	15/-	14/4½	14/4½
£1	BICC Ord.	61/3	49/9	52/6	52/6
5/-	BTR Ind. Ord.	17/3	9/9	16/6	16/1½
£1	,, ,, 7¼% Pref. ..	24/3	23/-	22/6	22/3
£1	Courtaulds Ord. ..	59/4½	44/3xc	59/4½	57/9
£1	,, 5% 1st Pref.	17/9	16/3	16/3	16/3
£1	,, 6% 2nd Pref.	21/-	19/-	19/1½	19/-
4/-	Cow, P. B. Ord. ..	9/6	6/9	9/-	8/10½
£1	,, ,, 5% Pref. ..	15/6	14/-	14/-	14/-
1/-	Dannimac Mfg. Ord. ..	12/9	9/-	10/9	10/7½
10/-	De La Rue Ord.	91/-	65/6	78/-xc	75/-
£1	,, ,, ,, 3½% Pref. ..	12/-	10/6	10/3	10/3
10/-	Distillers Co. Ord. ..	45/7½	32/9	45/7½	42/10½
£1	,, ,, 6% Pref...	22/-	19/6	19/6	19/6
£100	,, 5% Conv. Loan	£96	£95	£96	£95
£100	,, 5½% Unsec. Loan	£97	£87½	£87½	£86
10/-	Dunlop Rubber Ord. ..	30/6	21/9	30/4½	29/3
£1	,, ,, 5½% Pref.	19/-	16/6	16/3	16/3
£100	,, 3½% 1st Debs.	£78	£68	£70	£69
£100	,, 4½% 2nd Debs.	£87	£80	£80	£79
£1	Eng. Elect. Ord. ..	53/6	36/3	38/-	35/6
4/-	Ebonite Cont. Ord. ..	14/3	11/-	11/6	11/-
£1	English China Clays Ord.	95/-	74/6	91/-	90/-
£1	Goodyear Tyre 4% Pref.	12/9	10/9	11/-	11/-
5/-	Greeff Chem. Ord. ..	35/-	23/6	24/3	23/9
10/-	Greeff Chem. 5½% Pref.	9/-	8/6	9/-	9/-

Par Value	Company	1960 High	Low	Sept. 10	Latest
5/-	Hackbridge Hldg. ..	17/6	14/3	16/-	14/9
4/-	Greengate & Irwell Ord.	6/6	5/3	5/9	5/9
£1	Harrisons & Crosfield Dd.	64/-	49/6	54/4½	53/10½
1/-	Hunt & Moscrop Ord...	2/9	1/9	2/-	2/-
£1	Imp. Chem. Ord. ..	71/3	56/6	71/1½	67/-
£1	,, ,, 5% Pref. ..	18/-	16/3	16/3	16/3
£100	,, 4½% Unsec. Loan	£89½	£81	£82½	£80½
£100	,, 5½% Conv. Loan	£212½	£90xc	£92½	£91½
1/-	Kleemann (O. & M.) Ord.	11/6	8/3	11/4½	9/10½
£1	,, ,, 6½% Pref.	19/-	17/-	17/9	17/9
2/-	Lacrinoid Prod. Ord. ..	5/-	3/-	4/6	4/6
5/-	Laporte Ind. Ord. ..	33/6	25/3	33/3	30/6
£1	,, ,, 7½% Pref.	24/3	23/3	23/3	23/-
£1	Leyland & Birm. Rubber Ord.	63/-	46/3	62/6	61/-
£1	,, ,, ,, 6% Pref.	19/-	17/6	18/9	18/9
2/-	London Rubber.. ..	14/9	11/-	13/1½	13/1½
£1	,, 6% Red. Cum. Pref.	20/-	18/9	19/6	19/6
£1	McKechnie Bros. Ord...	71/6	57/-	60/-	59/-
£1	,, ,, 'A' Ord.	69/3	56/-	56/9	55/6
£1	,, ,, 6% Cum. Pref.	18/-	16/-	17/-	17/-
5/-	Monsanto Chem. Ord. ..	28/-	23/3	27/9xd	27/6
£1	,, ,, 3½% Pref.	12/9	12/-	12/6	12/6
£100	,, ,, 6% Debs.	£103½	£98	£99	£98
5/-	Miles (H.G.) Holdgs. Ord.	11/3	9/9	10/-	9/9
£1	North British Rubber ..	21/3	16/6	16/-	15/9
5/-	Northwestern Rubber ..	—	—	13/-	12/9
5/-	Plastic Enginrs. Ord. ..	30/-	20/-	30/-	28/9
5/-	Redfern Holdings Ord...	5/9	4/3	5/-	5/-
2/-	RFD Ltd. Ord.	6/6	4/9	4/6	4/-
£1	,, ,, 5½% Pref. ..	14/6	12/9	13/9	13/9
2/-	Rubber Imp. Ord. ..	7/9	4/6	5/-	5/-
2/-	,, ,, 'A' Ord. ..	7/-	3/3	3/9	3/6
£1	,, ,, 5% 1st Pref.	15/-	11/3	12/3	12/3
5/-	Rubber Reg. Ord. ..	19/3	17/-	17/4½	17/4½
4/-	Shaw Francis Ord. ..	27/6	21/3	23/3	23/-
2/-	Silentbloc Ord.	13/3	10/-	12/6	12/6
5/-	Storey Bros.	41/3	28/3	41/-	41/-
2/-	Sussex Rubber Ord. ..	2/3	1/3	2/-	2/-
5/-	Sutcliffe Speak Ord. ..	15/9	11/-	13/6	13/-
£1	Turner & Newall Ord. ..	115/-	100/-	62/6xc	53/6
£1	,, ,, ,, 7% Pref.	25/-	22/3	22/9	22/9
5/-	Universal Asbestos Ord.	50/-	32/6	27/3	27/-
5/-	Viscose Dev. Ord. ..	16/6	14/9	16/3	16/-
5/-	Warne W. (Holdgs.) Ord.	18/9	15/3xc	17/9	17/6

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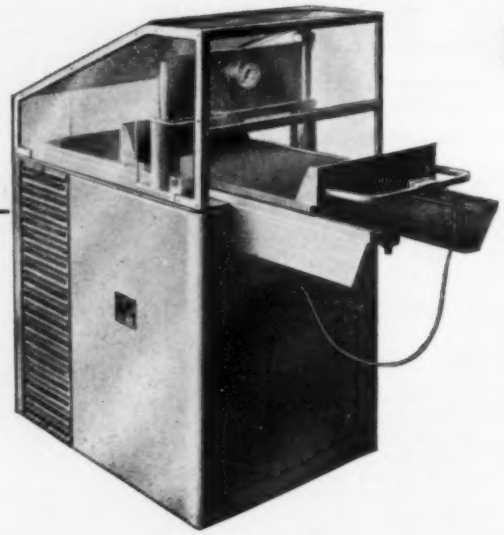

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For Standard size 26″ x 13″ x 9″, alternatively for cylindrical bale 15″ dia. x 20″ long; self-contained motorised Pumping Unit mounted in base ; fast action ; Perspex guard ; simple to install. No foundation required. Will slice to $\frac{3}{8}$″ thickness.

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Rubber Markets

LONDON

Technical short covering of near Terminal positions extended a rising trend that reflected dearer rubber at Singapore. As the market was below Eastern parity, sellers were cautious in offering. Easier conditions ruled later and an interim advance of 1¼d. a lb. was lost. Only small and selective interest was noted on factory account.

Latest prices are as follows:
No. 1 RSS Spot: 30d. nominal.

Settlement House:
October 30d.-30¼d.
November 29⅝d.-29⅞d.
December 29⅜d.-29⅝d.
October/December 29¾d.-30d.
January/March 28⅝d.-28⅞d.
April/June 27⅞d.-28⅛d.
July/September 27⅛d.-27⅜d.

No. 1 RSS cif basis ports:
October 29⅝d.-29⅞d.
November 29⅜d.-29⅝d.

Godown:
October 101¾ Straits cents nominal.

LATEX

Centrifuged 60% latex per gallon in drums, seller, October, November, December, 16s. 7d., cif European ports. Spot, seller, 17s. 3d. Bulk, d.w. 17s. 2d. nominal. Creamed, seller, not quoted, October, November. Normal, seller, October, 14s. 3d.

BANGKOK

No. 1 RSS

The price of No. 1 RSS at Bangkok on September 19 was 33.37½ (33.12½) US cents per lb.

DJAKARTA

The market was rather strong on September 20. In the morning session, a transaction of 20 tons of sheet No. 1 for October delivery took place at 41.50 rupiahs per kilo, while no transactions occurred for ready delivery of sheet No. 1 as buyers could not meet sellers' ideas of 41.00 rupiahs per kilo. The market closed steady and quiet.

	Rupiahs per kilo	
	Sept. 20	Previous
Spot No. 1 Priok ..	38.75b	37.00b
Spot No. 2 Priok ..	37.75b	35.50b
Spot No. 3 Priok ..	34.75n	33.00b
No. 1 fine pale crepe, spot	37.50b	36.50b

Tone: Steady.

SINGAPORE

With overseas advices better than expected, the market opened nearly two cents higher on September 19. The sharp advance brought in some nervous short-covering and sellers were reserved. Some profit-taking pared the gains in thin trading. Lower sheet and offgrade differentials widened considerably, but little business was transacted. Factories were quiet. The morning session closed quiet. The market in the afternoon was slow to open but, after initial hesitancy, prices hardened. Lowers were still in demand with differentials tending to widen. Factories stayed out. After hours the market closed steady quiet.

	Malayan cents per lb., fob Malayan ports to open ports	
	Sept. 19	Prev. Close
No. 1 RSS, Oct.	105⅜–106	104⅛–104⅜
Nov.	105⅛–105⅜	103⅛–103⅞
No. 2 RSS, Oct.	102⅜–103⅛	102 –102⅛
No. 3 RSS, Oct.	101⅛–102⅛	100⅛–100⅜
No. 4 RSS, Oct.	99⅛–100⅛	98⅛– 99⅛
No. 5 RSS, Oct.	93⅛– 94⅛	93⅛– 49⅛
No. 1 RSS, Spot	105⅛–105⅜	103⅞–104⅛
No. 3 blanket thick remilled crepe, Oct. ..	86½– 87½	87 – 88
No. 1 fine pale crepe, Oct. ..	109 –110½	108 –109
2x thin brown crepe, Oct. ..	86 – 87	86 – 87

Tone: Steady.

The Industries Syndicate quote latex, native produce, 60% centrifugal, packed in rectangular drums, fob at 200.20d. per gallon.

NEW YORK

The New York rubber market ruled as under on September 19:

DEALERS' PRICES

	US cents per lb. ex-dock	
	Sept. 19	Previous
No. 1 RSS, Sept. ..	35¼a	36n
Oct. ..	35a	35½n
No. 2 RSS, Sept. ..	35¼a	35½n
Oct. ..	34¼a	35½n
No. 3 RSS, Sept. ..	35¼a	35½n
Oct. ..	34¼a	35½n
No. 1 RSS, Spot ..	36n	36½n
No. 3 amber blanket crepe, Nov.	28½n	28⅝n

FUTURES—REX CONTRACT

	Sept. 19	Prev. Close
Sept. ..	35.70b–36.00a	35.65b–36.65a
Nov. ..	35.30b–35.40a	35.55–35.65t
Jan. ..	34.44t	34.65t
March ..	34.04t	34.15t
May ..	33.60b–33.85a	33.75b–34.00a
July ..	33.30b–33.60a	33.50b–33.80a
Sept. ..	33.00b–33.30a	33.25b–33.60a

Sales: 54. Tone: Steady.

After an early gain on September 19, futures slipped on profit-taking with dealings modest. Traders said that physical rubber was quiet and about steady. At the close, futures were barely steady, on scattered selling. Dealings for the day were moderate. Physical rubber was quiet and barely steady at the close.

AMSTERDAM

The Amsterdam rubber market ruled as under on September 19:

	Guilders per kilo	
No. 1 RMA	Sept. 19	Previous
September	3.04	2.97
October	3.03	2.96
November	3.02	2.95
December	3.01	2.94
October/December ..	3.02	2.95
January	2.92	2.86

Sales: Nil. Tendency: Firm.

CEYLON

No. 1 RSS

The price of No. 1 RSS at Colombo on September 19 was 108½ (109) Ceylon cents per lb.

STOCK MARKET

Continued from page 471

well received and attractively pitched to ensure success. The official reason given for the issue was that the group is now spending on capital account more than its net cash flow of about £5.6 million a year. But there has also been a sharp jump in the group's UK bank overdrafts from £13 million at the end of 1959 to £22 million now. A clue to how the company's profits are now running was given by chairman Lord Nelson that the total cost of servicing the group's debentures should be covered 'not less than five times.' This indicates profits roughly the same level as last year.

REICHHOLD CHEMICALS has maintained its interim dividend at 7½% on the capital as increased by a share bonus and rights issue. Dividends totalling not less than the previous 22½% were forecast for this year when the 'rights' issue was made.

Petroleum Chemicals by Portolite

For the first time, I.C.I. heavy organic chemicals division have used a flexible 'Portolite' tank to transport a consignment of one of their petroleum chemical products by road. Two thousand gallons (over 7 tons) of iso-octanol — used in the manufacture of DIOP (di-iso-octyl phthalate), a general-purpose plasticizer for PVC — were carried. Delivery was made from the division's works at Billingham, Co. Durham. The round trip was one of several hundred miles.

The 'Portolite' tank was filled on the deck of the flat-bottomed lorry in a normal manner, and was then lashed down with ropes. When full, the container measured some 15ft. in length and 8ft. in width, with a height of 2ft. 6in. For the return journey the empty container was rolled up to take up only about 3ft. of the lorry's deck, leaving 12ft. free for other purposes and effecting considerable economies in transport costs.

'Portolite' flexible tanks are made by Marston Excelsior Ltd., an I.C.I. subsidiary. The container used for this consignment had an interior lining of rayon-reinforced butyl rubber which is inert to iso-octanol.

Rubber Statistics

Owing to pressure on space this regular feature has been held over.

Industry INTELLIGENCE

Technical Data

Lucipal Extra

The handling and weighing out of catalysts and accelerators for use with polyester resins has always been one of the most delicate and important operations in the process. Novadel Ltd. have recently introduced a new product which should make this easier and possibly safer as an inadvertent mixing of the catalysts and accelerators in common use can result in a reaction of almost explosive violence. Lucipal Extra is a dry powder which contains benzoyl peroxide, an amine accelerator and an inert extender. This mixture is claimed to be very stable, not liable to explosion or spontaneous ignition and although inflammable only slow burning. When this is mixed with polyester resin the peroxide and accelerator dissolve rapidly in the resin causing cure. (Gel time using 5g. in 100g. of Filabond 8001, is 28 minutes at 25°C.). When used as a catalyst for polyester putties the Lucipal should be added to the filler component, the quantity being such that after mixing with resin, 4—7% of catalyst is present calculated on the resin. The filler used should be inert with respect to the peroxide and most commonly used fillers come within this category. Further information on this product (which is available in bulk) can be obtained from Novadel Ltd., St. Anns Crescent, Wandsworth, London, S.W.18.

Machines, Materials and Equipment

Valve with 'Feel'

A valve which enables the operator to 'feel' hydraulic pressure has been designed for the hydraulic operation of heavy duty clutch and brake mechanisms, such as are used on cranes and winches, or any similar mechanisms which require constant manual control.

Although the maximum pull required on the lever of this valve is only 18lb., the maximum hydraulic pressure of 1,500lb. per sq. in. can be sensed and controlled. A given movement of the control lever produces a resistance proportional to the movement of the hydraulic actuator.

The valve, manufactured by Kellavite Hydraulics Ltd., Allesley, Coventry, can be supplied to operate with an input pressure in three ranges; 0 to 500, 0 to 1,200 and 0 to 1,500lb. per sq. in. Port sizes are all ¼in. BSP. The valves can be supplied singly or in multiples up to six; for brake and clutch operation, they are usually supplied in pairs. They can be adapted for foot operation.

Chemical Soldering Iron

A soldering iron manufactured by Jenolite Ltd., 13/17 Rathbone Street, London, W.1., is heated by a chemical action occurring in the body of the tool. It is therefore self contained and independent of any source of electricity or flame.

The chemical charge is contained in a steel-shelled cartridge, which is inserted into the iron by unscrewing the tip, a set of five different interchangeable tips being provided. The heating reaction is initiated by a trigger in the handle of the iron. This reaction is stated to produce 10,000 calories, enabling soldering temperature to be maintained for up to 8 minutes, according to the nature of the job.

At the end of this period, the spent cartridge must be ejected and the action repeated.

The cartridges are said to have a long shelf life and do not present any fire or explosion hazards in storage.

Preventing Dermatitis

Industrial dermatitis is a common result of the use of substances which cause skin damage by direct action or in their removal by abrasives or harmful solvents and caustics. Many of the synthetic glues and resins which are now in common use stick tenaciously to the hands of operatives and their removal without damage to the skin is not easy.

A skin cleaning cream has now been formulated by Rosalex Ltd. for the specific purpose of the removal of such resins. It is rubbed over the contaminated area to soften the deposits which can then be washed or wiped off.

Another skin cleaning cream for cleaning dirt (but not specifically the resins) from the hands, has a thixotropic base so that it liquefies when rubbed into the hands, and can be used as a cleaning agent when water is not available. This is recommended for use by outside or transport workers with no easy access to water, or in processes in which it is an advantage to be able to clean the hands frequently whilst at the bench.

Extrusion Speed Measurement

The Cambridge extrusion speed transmitter continuously measures the ram speed of hydraulic presses (or any other machine producing a linear or equivalent rotational movement that can be coupled to the transmitter). It converts this varying mechanical quantity into a proportional electric current that will operate a number of separate indicators and recorders. With this system, the transmitter can be sited on the far side of the press out of the operator's way and indicators and recorders can be installed in any convenient spot.

The linear movement of the press is changed, by way of a tape and pulley, into a rotational movement of a shaft and this is measured by a force-balance servo system.

Hoskinson Incinerator

The Hoskinson space heating multi-fuel smokeless incinerator claims to consume smokelessly anything which is combustible, including rubber and plastics. Boston Marine and General Engineering Co., of Wolverhampton, who market the incinerator, announce that the mark II model is now in production with a number of additional features.

These include a new hopper feed to facilitate loading of rubbish into the furnace, and a water heater for users who require hot water instead of hot air. The water heater provides hot water for instant use or it can be connected to the existing water heating system of the premises, so saving fuel.

Another innovation is a gas-fired smoke eliminator as an alternative to the oil-fired eliminator on the mark I model, to give more universal application. The basic price of the mark II model is £640 for the incinerator without the automatic space heating oil burner, and £720 with the automatic burner. The additional cost for the hopper feed is up to £80, and the hot water heater £75, while the gas-fired smoke eliminator costs no more than the oiled-fired eliminator.

Publications

Safe Operating of Mills

A subject carefully studied by the Research Association of British Rubber Manufacturers is the safe working of laboratory mills. A great deal of work has been done on this subject by RABRM, and guards for what is considered the most dangerous of all rubber processing machines, the laboratory two roll mill, have been designed and used by them for some years.

Research report No. 99 is a comprehensive review of RABRM experience of mill braking and mill guards. It is aimed at giving sufficient information to enable company staff to modify laboratory mills, and offers further help from RABRM if this is needed. It is hoped that the British rubber industry will take the lead in laboratory-mill safety as it has already in the larger and more costly field of mill-room safety.

Material Prices

Prices of materials appear regularly in RUBBER JOURNAL AND INTERNATIONAL PLASTICS on the last Saturday of each month. It will be appreciated if suppliers will give notification of any price changes and additions to or deletions from their range. Comments on the present materials and classifications are invited in order that the list may be made of maximum service to our readers.

Unless otherwise stated prices are per lb. In most cases prices vary according to quantity. pc—per cwt pg—per gallon pt—per ton ag—according to grade xs—ex-store xw—ex-wharf dp—duty paid sp—special prices for contracts del—delivered cp—carriage paid

Accelerators

Alpha	5s. 8d.—6s. 4d.
Ancap	3s. 8d.
Ancap Zinc salt cp	2s. 10½d.
Ancatax cp	4s.
Ancazate ME cp	6s. 10d.
Ancazate Q del	6s. 4d.
Ancazate ZZ del	5s. 3d.
Ancazide ME cp	6s. 2d.
Cu.D.D	9s. 3d.—10s.
D.Bu.D	10s. 6d.—11s. 3d.
D.D.D	12s. 2d.—13s. 3d.
D.P.G. cp	3s. 8d.
D.O.T.G. cp	3s. 8d.
Dibenzo GMF	27s.—28s. 6d.
Furbac cp	5s. 3d.
Gamma	10s. 6d.—11s. 3d.
GMF	27s.—28s. 6d.
L.M.D	9s. 3d.—10s.
M.Z.1	3s. 6d.—4s. 2d.
N.Bu.D	10s. 6d.—11s. 3d.
Ni.P.D	12s. 2d.—13s. 3d.
P.P.D	12s. 2d.—13s. 3d.
P.T.D	12s. 2d.—13s. 3d.
Robac 22	10s.—11s. 3d.
Robac 44	9s. 1d.—9s. 10d.
S.P.D	9s. 3d.—10s.
Suparac M	9s. 7d.
T.B.U.T	15s.—16s.
T.E.T	6s. 6d.—7s. 4d.
Thiuram P.25	15s.—16s.
T.M.S	7s. 8d.—8s. 6d.
T.M.T	5s. 4d.—6s. 3d.
Vulcacit CZ deldp	7s. 1d.
Vulcacit F deldp	4s. 8½d.
Vulcacit NP deldp	11s. 2d.
Vulcacit P Extra N deldp	8s. 1d.
Z.B.E.D	15s.—16s.
Z.Bu.D	6s. 3d.—7s. 3d.
Z.D.C	5s. 1d.—5s. 7d.
Z.L	9s. 3d.—10s.
Z.P.D	9s. 3d.—10s.

Antioxidants and Antiozonants

Agerite HPX cp	4s. 8d.
Antioxidant 2246 del	12s. 4d.
Antioxidant SP del	4s. 6d.
BLE-25	3s. 7d.—4s. 5d.
BXA	3s. 6½d.—4s. 5½d.
Naugawhite	4s. 9d.—5s. 6d.
Octamine	3s. 9d.—4s. 6d.
Polygard	3s. 7½d.—4s. 5d.
UOP 88 xs	9s. 3d.
UOP 288 xs	9s. 3d.
Wing-Stay S	3s. 8d.—4s.
Wing-Stay T	4s. 10d.—5s. 6d.
Wing-Stay 100	10s. 6d.—11s. 6d.

Compounding Ingredients

Barytes ptag	£10—£40
Calcium Silicate del	9d.—10½d.
Calcene ptxw	£52—£69 10s.
Carbonate, Light Mg. ptsp	£97
Carbonate, Actidated Ca. pt	£28—£30
Carbon Blacks:	
Conductex SCF	1s. 2½d.
Continental AMPC ag	11½d.—1s. 4½d.
Continex FEF ag	9½d.—10½d.
Continex HAF ag	10½d.—11d.
Continex HMF ag	9½d.—9½d.
Continex ISAF ag	1s. 0½d.—1s. 0½d.
Continex SRF, SRF-NS ag	8½d.—9d.
Dixie 45 GPF	6½d.—7½d.
Dixie 60 HAF	7½d.—8½d.
Dixie 70 ISAF	9½d.—10½d.
Furnex SRF	9d.
Kosmos 45 GPF	6½d.—7d.
Kosmos 60 HAF	7½d.—8d.
Magecol 888 SRF	7.60d.
Micronex MPC	11½d.
Micronex W6 EPC	11½d.
Philblack A. FEF xs	7d.—8d.
Philblack E. SAF xs	1s. 0½d.—1s. 1d.
Philblack G. GPF xs	6½d.—7½d.
Philblack I. ISAF xs	9½d.—10½d.
Philblack O HAF xs	7½d.—5½d.
Regal 300	7½d.—8d.
Regal 600	9½d.—10d.
Statex B. FF	10½d.
Statex R. HAF	11d.
Statex 93 HMF	9½d.
Sterling SO FEF	7d.—7½d.
Sterling V. GPF	6½d.—7d.
Ukarb 327 GPF xs	6½d.—7½d.
Ukarb 340 xs	7½d.—8½d.
Vulcan 6 ISAF	9½d.—10d.
Vulcan C CF	11d.—11½d.
Vulcan 3 HAF	7½d.—8d.
Vulcan XXX SCF	1s. 2½d.—1s. 2½d.
China Clay ptagxs	£12—£68 10s.
Factice Dark	1s. 0½d.
Factice Light	1s. 7d.
Kieselguhr Spanish White ptxs	£37 12s. 6d.
Lithopone 30% ptxs	£68 10s.
Manosil VN3 pt	£120 5s.—£150 5s.
Micafine Powdered Mica ptxs	£67 10s.
Ochre Yellow pcxs	£1 19s.
Oxide Light Mg ptsp	£245
Oxide Red pcxs	£4 3s.
Oxide Titanium 98% pcxs	£8 8s.
Rutiox CR pcxs	£9 3s.
Rubber Gen. Gran. Mineral ptxs	£35 5s.
Shellac Dewaxed xs	1s. 9d.—2s. 3d.
Shellac Orange xs	2s.—3s. 9d.
Silica Hydrated ptxs	£113
Sulphur Manox Insoluble del	1s. 9d.
Sulphur Powdered ptdel	£20 17s.
Sulphur Sublimed Flowers ptxs	£52 10s.
Talc Italian ptxs	£28 2s. 6d.
Tufknit Durham CS	8½d.—10½d.
White Lead Dry ptde'sp	£116 5s.
Whitetex 2 Clay ptxs	£40 10s.
Whiting ptxs	£5 9s. 6d.—£7 7s. 6d.
Zinc Oxide pcdel	£6

Plasticizers and Softeners

Abalyn pc	220s.—271s.
Al Stearate ptxwdp	£253 10s.
Bisoflex 102 pt	£513—£568
Butyl Ricinoleate	2s. 6d.—2s. 6½d.
But. Ac Ricinoleate	3s. 0½d.—3s. 1½d.
Butyl Stearate pt	£277—£282
Ca. Stearate ptcp	£220
Diallyl Phthalate	3s. 11d.—4s. 11½d.
Dialkyl Phthalate pt	£221—£222
Dibutyl Phthalate pt	£203—£204
Dibutyl Sebacate	5s. 9½d.
DiOA pt	£354—£357
DiOS sp	5s. 0½d.—5s. 2d.
DOA pt	£414—£420
DOP pt	£276—£277
DOS sp	5s. 7½d.—5s. 9d.
Disobutyl Phthalate pt	£196—£197
Diisooctyl Phthalate pt	£221—£222
Dinonyl Phthalate pt	£211—£212
DNS sp	5s. 2½d.—5s. 4½d.
Ester Gum pcag	130s.—150s.
Flexol 3GO	4s. 8d.
Hercolyn pc	242s.—294s.
Lankroflex ED3	3s. 2d.—3s. 2½d.
Lankroflex 29 pt	£216—£217
Lead Stearate ptxwdp	£223 10s.
Methyl Ricinoleate	2s. 4d.—2s. 4½d.
Me. Ac Ricinoleate	2s. 11½d.—3s. 0½d.
Polyglycol Oleate 400 pt	£285
Reomol D79A pt	£354—£357
Reomol D79S sp	5s. 0½d.—5s. 2d.
Reoplex 100 sp	6s. 1½d.—6s. 2½d.
Reoplex 110 sp	5s. 10d.—6s. 5½d.
Reoplex 220 sp	5s. 6½d.—5s. 8d.
Reoplex 300 sp	7s. 2d.—7s. 3½d.
Reoplex 400 sp	4s. 2½d.—4s. 4d.
Rosin Oil pgag	8s.—18s.
Triphenyl Phosphate pt	£366
Tricresyl Phosphate pt	£233
Trixylyl Phosphate pt	£200
Zinc Stearate ptdel	£220—£230

Solvents and General Chemicals

Acetic acid ptdel	£97—£106
Acetic Anhydride ptdel	£128
Acetone ptdel	£75—£120
Alcohol:	
Absolute 74.5 op pgdel	4s. 0½d.—4s. 4½d.
Butyl pt	£132—£193 10s.
sec-Butyl ptdel	£128—£168
Ter-Butyl ptdel	£172—£195
Isopropyl Tech. 99% pgdel	5s.—6s. 5½d.
Butyl 'Carbitol' pt	£283
Butyl Acetate pt	£159—£217
Caprylic Acid ptdel	£395
Carbon Bisulphide ptxs	£71 10s.
Carbon Tetrachloride pg	12s. 4d.—20s.
'Cellosolve' Acetate pt	£250
Cresol m- 98% del	4s. 9d.
Cresol o- 30/31°C. del	1s.
Cresol p- 34/35°C. del	5s.
Ethyl Acetate pt	£131—£189
Formaldehyde ptdel	£40
Glycol:	
Diethylene pt	£158
Ethylene pt	£132
Polyethylene 200 pt	£214
,, 300 pt	£214
,, 400 pt	£214
,, 1,500 pt	£264
,, 4,000 pt	£274
,, 6,000 pt	£294
Isopropyl Acetate pt	£126—£184
Isobu yl Acetate 80% pt	£126—£185
Lauric Acid ptdel	£273
M.E.K. ptdel	£134 10s.—£143 10s.
M.I.B.K. ptdel	£166—£209
Methylated Spirits pgdel:	
Industrial 61op	5s. 5½d.—7s. 2d.
,, 74 op	6s. 3d.—7s. 11½d.
'Q' grade 68 op	8s. 5½d.—10s. 5d.
Pyridinised 66 op	5s. 10d.—7s. 6½d.
Denatured Methanol	3s. 9½d.—4s. 10d.
Monoethanolamine pt	£252
Naphtha Coal tar pg:	
Heavy 90—190	4s.
Light 90—160	5s. 1d.
Palmitic Acid ptdel	£147
Phenol pldel	1s. 4d.—1s. 7d.
Pyridine pg	16s. 6d.
Stearine ptag	£108—£130
Toluol Pure/Nitration pg	5s. 8d.
Toluol 90's pg	5s.
Triethanolamine pt	£224
Xylol 2/30 pg	5s. 9d.

Goodyear Office Block

Goodyear are constructing a two-storey, ultra-modern office block at their Wolverhampton plant.

T.G. Construction Co. has been awarded a £120,000 contract for the building of the block.

Barrett Kirkendall has been appointed manager of the Coast division of Firestone, it has been announced in Akron.

Export Opportunities

Flooring for Germany

Franz J. Heinrich, Konigstrasse 33, Hanover, Germany, wish to import rubber and plastics flooring from the UK. It is reported that much of the firm's business is done with Government institutions.

Manufacturers should write direct to the owner and manager of the firm, Herr Heinrich Laer. At the same time, they should notify the British Consulate-General, Commercial Section, Aegidientorplatz 1, Hanover. (Ref. ESB/23913/60.)

PVC for Hong Kong

Thians' Plastics Industrial Co. Ltd., of Room 601-B, Great China House, 8 Queen's Road, Central, Hong Kong, wish to obtain supplies of polyvinyl chloride in the form of pastes, powders, polymers and resins. They also require stabilizers and plasticizers in the form of phthalates and stearates for their expanding production of PVC sheeting and compounds for moulders and extruders. They expect quantities to run into about 200 tons a month of PVC plus about 100 tons each of stabilizers and plasticizers.

Manufacturers should write direct to Thians' Plastics Industrial Co. Ltd., sending small samples and giving prices in cif Hong Kong terms together with details of availability of supplies. A copy of initial correspondence should be sent to the United Kingdom Trade Commissioner, P.O. Box 528, Room 1037—40, 10th Floor, Alexandra House, Hong Kong. (ESB/23897/60.)

Plastics Chemicals and Synthetic Rubber for Australia

The British Metal Corporation (Australia) Pty. Ltd., Prudential Building, Martin Place, Sydney, is seeking to extend its activities in the agency field and wishes to get in touch with UK manufacturers of industrial chemicals, particularly chemicals for the plastics industry, and industrial raw materials, including synthetic rubber. The Australian concern is a subsidiary of the British Metal Corporation, has its own branches in Perth and Melbourne, and is in a position to cover the Australian market.

S. W. Warren, a joint manager of British Metal, expects to arrive in the UK about the end of September when he will spend two weeks in London.

Manufacturers interested should write to Mr S. W. Warren, c/o Room 728, Export Services Branch, Lacon House, Theobalds Road, London, W.C.1.

Plastics Machinery for Roumania

The Roumanian Ministry of Oil and Chemical Industries is interested in purchasing from UK manufacturers machinery to produce Plastics Pipes and Tubes, and household and domestic articles of all kinds made from plastics.

Firms interested should write or cable Masinimport, Strada Mihail Eminescu No. 10, Bucharest. Cable address : Masinimport, Bucharest; telex 224.

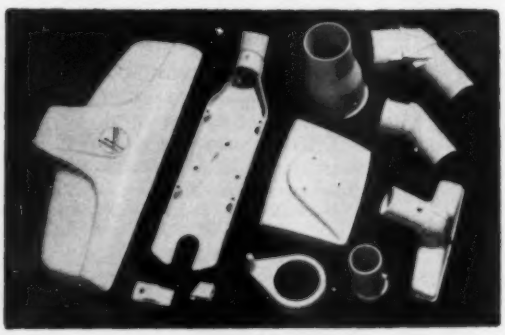
Responding firms should also notify The Secretary, Chancery, British Legation, 24 Strada Jules Michelet, Bucharest. ESB/22456/60.

Enquiries should be addressed to the Board of Trade, Export Services Branch, Theobalds Road, W.C.1, unless otherwise stated.

Canadian Asbestos in 1959

Canadian producers of asbestos shipped a near record quantity in 1959 at 1,050,429 tons, an increase of 13.5% from 925,331 tons in 1958 but a decrease of 1.3% from the record 1,063,802 tons set in 1955. Dominion Bureau of Statistics annual industry report shows that the value of shipments (excluding containers) rose 16.4% to an all-time high of $107,433,000 from $92,277,000 in the preceding year, and was 2.8% above the previous peak of $104,489,000 reached in 1957.

Gross selling value of products from 23 establishments in 1959 climbed 16.5% to a new record of $110,997,000 from 1958's 22, plant total of $95,271,000 and was 2.8% above 1957's previous high of $108,014,000. Number of employees dropped to 6,653 from 6,997 in the preceding year and salaries and wages to $31,449,000 from $32,025,000, while cost of process supplies and containers rose to $13,730,000 from $12,798,000.



Hoover have replaced metal with BRP's high impact Styron polystyrene for many of the fitments on their range of vacuum cleaners. Seven different cleaners are now fitted with polystyrene furniture nozzles, nozzle connector tubes, converter housings and other items

TRADE MARKS

Objections to the registration of any of the undermentioned applications may be lodged with the Comptroller-General of Patents, Designs and Trade Marks at the Patent Office, 25 Southampton Buildings, Chancery Lane, London, W.C.2, within one month of the date mentioned. The objections must be stated on Trade Marks Form No. 7, cost £2, obtainable through any money order office. The extracts—from 'The Trade Marks Journal'—given below are reproduced by permission of the Controller of H.M. Stationery Office.

Pliotrim

(795,953) Laminations of films of thermoplastics and of foamed or synthetic rubber, the foamed or synthetic rubber predominating. The Goodyear Tire and Rubber Co., 1144 East Market Street, Akron. Address for service is c/o Marks and Clerk, 57-58 Lincoln's Inn Fields, London, W.C.2. (Class 17; August 30 1960).

SCOOBEEDOO (802,407) Rods, tubes, sheets, strips and bands, all made of plastics and included in Class 17. Leaf Sales (Confectionery) Ltd., Clarence House, Arthur Street, London, E.C.4. (Class 17; August 30 1960).

RAYBEX (804,377) Material in the form of sheets, rods, tubes, blocks, strips, filaments, and shaped sections and articles made therefrom; all made wholly or principally of plastics and included in Class 17. B. X. Plastics Ltd., Highams Park, London, E.4. (Class 17; August 30 1960).

NEW COMPANIES

Commercial Plastics (International) Ltd. (668,915).—August 31. Capital: £100 in £1 shares. To manufacture, process, convert, conduct, research and development and deal in plastics, synthetic resins, synthetic fibres and textiles, chemicals, etc. The directors are: Jakob Pomeraniec, 3 Telegraph Hill, N.W.3 (director of Commercial Plastics Ltd., etc.); Robert E. Lynam, 43 Woodride, Petts Wood, Kent (director of Greenwich Plastics Ltd., etc.). Regd. office: Willington Quay, Wallsend-on-Tyne, Northumberland.

Flock Finishes Ltd. (669,154).—September 2. Capital: £500 in £1 shares. To carry on the business of flock finishers on wood, metal, plastics, cardboard, paper or any other material or surface for the purpose of advertising display, etc. Kenneth W. Ward, 5 Percival Road, Clifton, Bristol, 8 (director of Link Displays Ltd.), is first director. Secretary: Hugh A. Davis.

Gulton Industries (Britain) Ltd. (669,288).—September 5. Capital: £100 in £1 shares. To carry on the business of manufacturers of and dealers in electrical and electronic equipment, ceramics, porcelain, glass and plastic of all kinds, etc. The directors are: Leslie K. Gulton, 212 Durham Avenue, Metuchen, N.J., USA; David Barr, 9 Drapers Gardens, Throgmorton Avenue, E.C.2. Regd. office: 9 Drapers Gardens, Throgmorton Avenue, E.C.2.

Peter Plastics Ltd. (669,308).—September 5. Capital: £1,000 in £1 shares. To carry on the business of manufacturers of and dealers in plastics. Solicitors: Davies Bell & Co., Newcastle on Tyne.

Tameside Industrial Lamination and Plastics Co. Ltd. (669,325).—September 5. Capital: £1,000 in £1 shares. The directors are: Albert E. Aldred, 62 Broadoak Road, Smallshow, Ashton-under-Lyne; Eric Aldred, 14 Springbank Avenue, Ashton-under-Lyne; Roland Dransfield. Reg. office: Tame Street, Stalybridge.

Plastics Industrial (Luton) Ltd. (667,037).—August 8. Capital: £1,000 in £1 shares. Willis J. Richardson is the first governing director and chairman. Regd. office: 27 Dunstable Road, Luton.

Marine Plastics (Grimbsy) Ltd. (668,755).—August 29. Capital: £500 in £1 shares. To carry on the business of manufacturers of and dealers in plastics, etc. The directors are: Frederick R. Lloyd, 309 Laceby Road, Grimsby; Joseph C. Ogle, Graylings, Peaks Lane, New Waltham, Nr. Grimsby. Regd. office: 133 Victoria Street, Grimsby.

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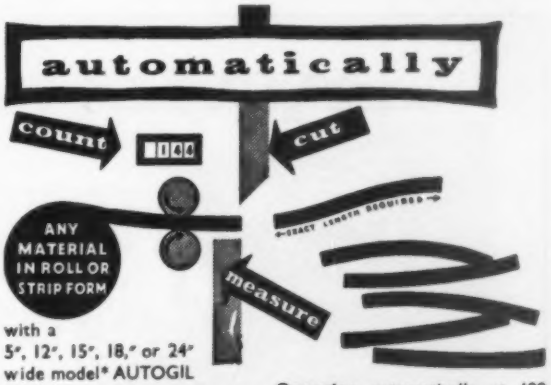

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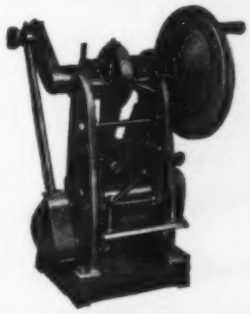

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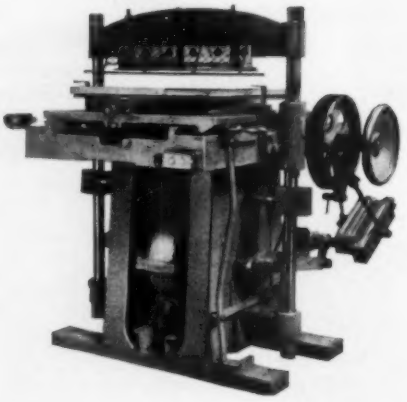
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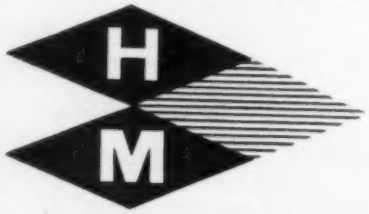

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